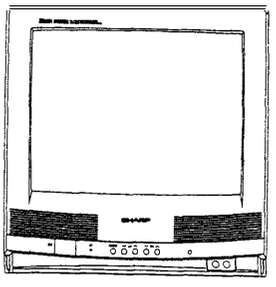
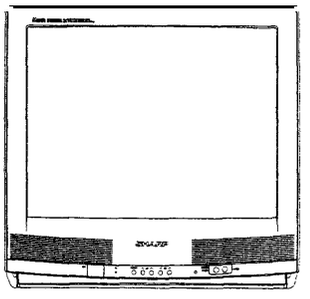
SHARP SERVICE MANUAL

SX7i2CX-51G3/



CX-34G3



CX-51G3

COLOUR TELEVISION

Chassis No. SP-61

MODELS **CX-34G3**
CX-51G3

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

FEATURE

- Reminder/ON-Off Timer
- English/Arabic/Chinese/French/Russian/Malay six Language OSD
- Hyper Band PLL Tuner
- Wide Range Chopper Regulator System
- Front A/V Input Rear A/V Input/Output Terminal
- Blue Back Noise Mute
- PAL/SECAM Dual System
- NTSC 4.43/3.58 MHz (AV only)
- Direct Access Remote Control
- NTSC Colour-Comb Filter
- Black Strech Circuit

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WARNING

The chassis in this receiver is partially hot. Use an isolation transformer between the line cord plug and power receptacle, when servicing this chassis. To prevent electric shock, do not remove cover. No user -serviceable parts inside. Refer servicing to qualified service personnel.

SHARP CORPORATION

SPECIFICATIONS

Convergence	Self Converging System
Focus	Quadra-Potential Electrostatic
Sweep Deflection	Magnetic
Intermediate Frequencies	
Picture IF Carrier	38.9 MHz
Sound IF Carrier Frequency	
6.5 MHz	32.4 MHz
6.0 MHz	32.9 MHz
5.5 MHz	33.4 MHz
Colour Sub-Carrier Frequency	34.47 MHz
Power Input	110-240V AC 50/60 Hz
Power Consumption	65 W
Audio Power Output Rating	3.0 w (at Max.)
Speaker	
Size	5 cm × 9 cm 1pc
Voice Coil Impedance	16 ohms at 400 Hz
Aerial Input Impedance	
VHF/UHF	75 ohm Unbalanced
Receiving System	CCiR PAL B, G NTSC 3.58/4.43 MHz (AV Input Only)
Tuner Ranges	
• VHF-Channels	E2 (48.25 MHz) thru E12 (224.25 MHz) CI (49.75 MHz) thru C12 (216.25 MHz) S1 (105.25 MHz) thru S41 (463.25 MHz)
• UHF-Channels	E21 (471.25 MHz) thru E69 (855.25 MHz) C13 (471.25MHz) thru C57 (863.25 MHz)
Dimensions	
CX-34G3	Width: 357.0 mm Height: 360.0 mm Depth: 359.5 mm Weight (approx.): 9.5 kg
CX-51G3	Width: 449.0 mm Height: 475.0 mm Depth: 473.0 mm Weight (approx.): 21.0 kg
Cabinet Material	All Plastics

Specifications are subject to change without ***prior notice.***

IMPORTANT SERVICE NOTES

Maintenance and repair of this receiver should be done by qualified service personnel only.

SERVICING OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove static charge from it by connecting a 10k ohm Resistor in series with an insulated wire (such as a test probe) between picture tube dag and 2nd anode lead. (AC line cord should be disconnected from AC outlet.)

1. **Picture tube in this receiver employs integral implosion protection.**
2. **Replace with tube of the same type number for continued safety.**
3. **Do not lift picture tube by the neck.**
4. **Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage completely**

X-RAY

This receiver is designed so that any X-Ray radiation is kept to an absolute minimum. Since certain malfunctions or servicing may produce potentially hazardous radiation with prolonged exposure at close range, the following precautions should be observed:

1. **CX-34G3: When repairing the circuit, be sure not to Increase the high voltage to more than 23.5 kV (at beam 0 μA) for the set.**
   CX-51G3: When repairing the circuit, be sure not to Increase the high voltage to more than 29.0 kV (at beam 0 μA) for the set.
2. **CX-34G3: To keep the set in a normal operation, be sure to make it function on 22.0 kV ± 1.5 kV (at beam 800 μA) in the case of the set. The set has been factory – Adjusted to the above-mentioned high voltage.**
   CX-51G3: To keep the set in a normal operation, be sure to make it function on 24.8 kV ± 1.5 kV (at beam 1100 μA) in the case of the set. The set has been factory – Adjusted to the above-mentioned high voltage.
   ∴ **If there is a possibility that the high voltage fluctuates as a result of the repairs, never forget to check for such high voltage after the work.**
3. **Do not substitute a picture tube with unauthorized types and/or brands which may cause excess X-ray radiation.**

BEFORE RETURNING THE RECEIVER

Before returning the receiver to the user, perform the following safety checks.

1. **Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.**
2. **Inspect all protective devices such as non-metallic control knobs, Insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical Insulators etc.**

ADJUSTMENT PRECAUTIONS

This model's settings are adjusted in two different ways: through the I²C bus control and in the conventional analog manner. The adjustment via the I²C bus control includes preset-only items and variable data.

1. Calling the service mode by the microprocessor

① Set the switch S1006 to the service mode position, and the microprocessor is put in the service mode (adjustment through the I²C bus control).
② Press the CH UP/DOWN keys on the remote controller to select the modes one by one.
③ Press the CH UP/DOWN keys on the remote controller to select the modes in the order opposite to the above step ②.
④ Using the VOLUME UP/DOWN keys on the remote controller, the data can be modified.
⑤ Set the switch S1006 to the normal mode (OFF) position, and the microprocessor is put out of the service mode.

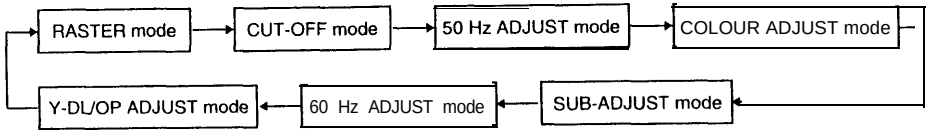
2. Factory presettings

① Set the switch S1006 to the service mode position and turn on the main power switch. Initial values are automatically preset only when a new E²PROM is used (judgment with the first 4 bytes).
② The initial data are preset as listed on pages 4 and 5.
③ Keep in mind that some settings should be modified, and the others should remain as preset.
Once the chassis has been put together, be sure to set the switch S1006 to the service mode position first and then turn on the main power switch (see the step 2.-① above). Turning on the power without initializing the E²PROM may cause a flow of excess beam current.

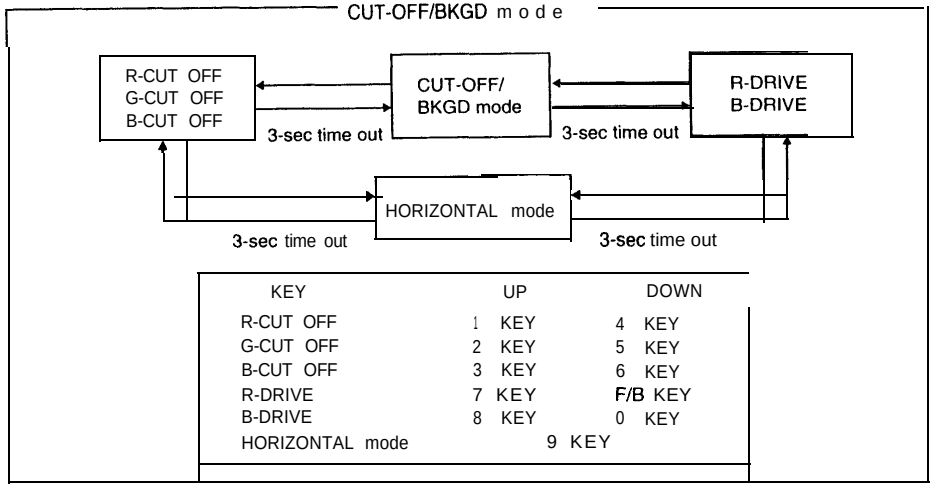
3. The accompanying memory map (12-page document for the RH-iX2938CE) is for your reference.

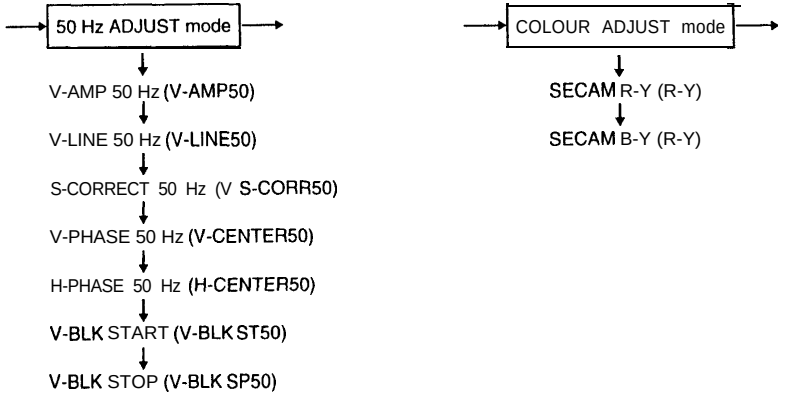
■ SERVICE MODE

(1) Press the specific keys to change the modes as follows.



In the direction of arrow : CH DOWN key
In the opposite direction : CH UP key





In the direction of arrow : CH DOWN key
In the opposite direction : CH UP key

In the direction of arrow : CH DOWN key
In the opposite direction : CH UP key

• The characters in parentheses appear on the on-screen display.

SUB-ADJUST mode

↓ SUB CONTRAST (SUB CON)
↓ SUB BRIGHT (SUB BRI)
↓ SUB COLOUR (SUB COL)
↓ SUB SUBTINT (SUB TIN)
↓ SUB SHARPNESS (SUB SHARP)
↓ Y-SUB CONTRAST (Y SUB CON)

In the direction of arrow : CH DOWN key
In the opposite direction : CH UP key

60Hz ADJUST mode

↓ V-AMP 60 Hz (V-AMP60)
↓ V-LINE 60 Hz (V-LINE60)
↓ VS-CORRECT 60 Hz
↓ V-PHASE 60 Hz (V-CENTER60)
↓ H-PHASE 60 Hz (H-CENTER60)
↓ V-BLK START 60 Hz (V-BLK ST60)
↓ V-BLK STOP 60 Hz (V-BLK SP60)

In the direction of arrow : CH DOWN key
In the opposite direction : CH UP key

Y-DL/OPTION mode

↓ Y DELAY PAL (DT PAL TV/AV)
↓ Y DELAY SECAM (DT SECAM TV/AV)
↓ Y DELAY NTSC (DT NTSC TV/AV)
↓ Y DELAY B/W (DT BW TV/AV)
↓ VIDEO MUTE ON/OFF (V-MUTE)
↓ VIDEO 2 ON/OFF (AV2)
(DELAY AN effective in AN mode)

- The characters in parentheses appear on the on-screen display.

- When the modes are switched, the last service mode data are stored into the E²PROM.
- In the service mode, the user data are preset as follows.

	User data
CONTRAST	MAX (64164)
COLOUR	CENT (32/64)
BRIGHTNESS	CENT (32/64)
TINT	CENT (32/64)
SHARPNESS	CENT (32/64)
S-VOLUME	MIN (1/64)
BLUE BACK	OFF
C SYSTEM	AUTO
S SYSTEM	'1

*1 : Settings of each channel before switching to the service mode.

- The following keys are used to go directly to their respective modes,

Mode	Key input
H-CENTER 50	PICTURE
V-CENTER 50	TEXT
V-AMP 50	INDEX
V S CORR 50	RED
V-LINE 50	GREEN
SUB CONT	CANCEL
Y SUB CONT	REVEAL
SUB COLOUR	TIMED PAGE
SUB BRIGHT	SIZE
SUB TINT	HOLD
SUB SHARP	RESET
R-Y	YELLOW
B-Y	CYAN
A/V2 ON/OFF	SKIP
VIDEO MUTE	BLUE BACK

- To go to the service mode, the data at the E²PROM's addresses 00H thru 03H are read. If the data are not as given below, the E²PROM is initialized according to the table below.

Address : Data
00H : 22H 02H : 13H
01H : 29H 03H : 48H

E²PROM item	Data adjustable range)	Data initial value	Remarks
(00H)	——	22H	
(01H)	——	29H	
(02H)	——	13H	
(03H)	——	48H	
R CUT OFF	0 ~ 255	0	
G CUT OFF	0 ~ 255	0	
B CUT OFF	0 ~ 255	0	
G DRIVE	0 ~ 255	127	
B DRIVE	0 ~ 255	127	
50Hz V-AMP	0 ~ 127	58	1 '1
50Hz V-LINEARITY	o - 31	16	-2 1
50Hz S-CORRECTION	0 ~ 127	50 (14")/67 (21")	7 '1 '2
50Hz V-PHASE	0 ~ 7	5	-3 1
50Hz H-PHASE	o- 31	7	+5 1
V-BLK ST 50	0 - 63	58→63 (50Hz)	
V-BLK SP 50	0 . 127	25	
60Hz V-AMP	0 ~ 127		
60Hz V-LINEARITY	o- 31		
60Hz S-CORRECTION	0 ~ 127		1
60Hz V-PHASE	0 ~ 7		'4
60Hz H-PHASE	0 ~ 31		
60Hz V BLK ST	0 ~ 63	60→63 (60Hz)	
60Hz V BLK SP	0 ~ 127	20	
SECAM R-Y	o - 15	10	
SECAM B-Y	0 ~ 15	6	
SUB-CONTRAST	0 ~ 255	255	'2
SUB-BRIGHT	0 ~ 255	127	
SUB-COLOUR	0 ~ 255	110	
SUB-TINT	0 ~ 127	70	
SUB-SHARPNESS	0 - 63	28	
Y SUB-CONTRAST	o - 31	18	1
DT PAL TV/AV	0 ~ 7	2/2	'2
DT SECAM TV/AV	0 ~ 7	4/4	'2
DT NTSC TV/AV	0 ~ 7	2/2	'2
DT B/W TV/AV	0 ~ 7	2/2	'2
V-MUTE	ON/OFF	OFF	
A/V 2	ON/OFF	ON	
AFT/SKIP	0 ~ 1	OFF/ON	
C-SYSTEM	0 ~ 1	AUTO	
S-SYSTEM	——	B/G	

NVM '3 **With all the adjustments complete, do not change the data of addresses 00H thru 03H. Otherwise the E²PROM will be initialized when the AC power is turned on.**

- 1 : These data are additionally adjusted for 60Hz based on the 50Hz settings.
'2 : Unless otherwise specified, these data are fixed and need no adjustment.

- 3 : When the IC1001 is RH-iX2938CEZZ/N1, change the NVM data from 00 to 01 (address 198H). For the RH-iX2938CEN2 and the following ICs, there is no need to change this data (as from the July 1997 production).

'4 : Only 0 through 5 must be used in changing the data.

INITIAL SETTINGS OF CHANNEL SELECTION DATA

(1) Make an entry of MCL1 in the service mode in order to set the following channel selection data to the E²PROM. And select the POS1 channel. (An MCL2, -3 or -4 input makes different settings.)

POS	CH NO	Receiving frequency (MHz)	S-System
1	E-2	48.25	B/G
2	E-3	55.25	B/G
3	E-4	62.25	B/G
4	OI-3	77.25	D/K
5	E-5	175.25	B/G
6	OI-7	183.25	D/K
7	OI-8	196.25	D/K
8	E-10	210.25	B/G
9	E-12	224.25	B/G
10	I-23	487.25	I
11	E-25	503.25	B/G
12	E-34	575.25	B/G
13	E-37	599.25	B/G
14	OI-42	639.25	D/K
15	I-54	735.25	I
16	E-58	767.25	B/G
17	E-64	815.25	B/G
18	I-69	855.25	I
19	J-6	183.25	
20	J-8	193.25	
21	J14	477.25	
22	J-38	621.25	
23	J-50	693.25	
24	S-2	112.25	B/G
25	S-10	168.25	B/G
26	SKIP OFF	FREE	
27	S-20	294.25	B/G
28	S-41	463.25	B/G
29	SKIP OFF	FREE	
30			
31			
32			

FACTORY SETTING

(1) The following key-in data have been factory-set for the E²PROM.

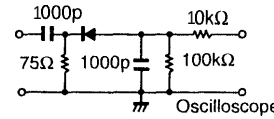
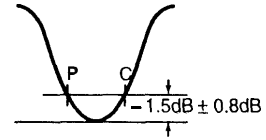
Item	Setting
SKIP	OFF
AFT	ON
C-SYSTEM	AUTO
LAST POWER	ON
LAST TV/AV	TV
DIGIT	1DIG
LANGUAGE	*1
BLUE BACK	ON
LAST POS	1
LAST FBPOS	1
VOLUME	MIN
CONTRAST	MAX
COLOUR	CENT
BRIGHTNESS	CENT
TINT	CENT
SHARPNESS	CENT

*1 : For settings, refer to the Job Instruction Sheet.

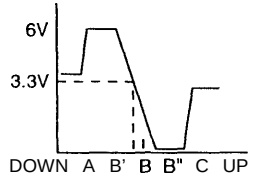
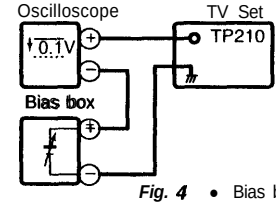
115V ADJUSTMENT

No.	Adjusting point	Adjusting procedure/conditions	Waveform and others
	115V adjustment: R711	1. Receive the E-5CH (monoscope pattern) signal. 2. Using the remote controller, call the P-NORM mode. 3. Connect a beam ammeter between TP602 and TP603. • Ammeter's full-scale : 3 mA range • Ammeter's positive (+) lead : TP603 • Ammeter's negative (-) lead : TP602 4. Take the beam ammeter reading to make sure that the beam current is between 600 µA and 800 µA (14")/900 µA and 1100 µA (21"). • If not, readjust the FBT screen control to obtain the beam current of 600-800 µA (14")/ 900-1100 µA (21"). 5. Connect a digital voltmeter to TP701. 6. Adjust R711 so that the digital voltmeter should read 115 ±0.5 V.	

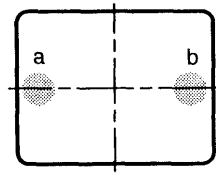
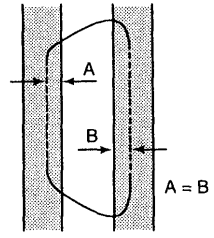
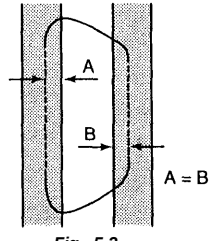
PIF CHECKING

No.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	**Tuner IF (preset): TU201**	1. Get the tuner ready to receive the E-9CH signal. but with no signal input. Adjust the PLL data. 2. Connect the sweep generator's output cable to the tuner antenna. (RF sweep) 3. Adjust the sweep generator's output level to 80 dBµV. 4. Connect the response lead (use a low-impedance probe with wave detector; see Fig. 1) to the tuner's IF output terminal. (This terminal must have the probe alone connected.) 5. Set the RF AGC voltage to 0-6 V with no contact with the waveform. 6. Adjust the tuner IF coil to obtain the waveform as shown in ***Fig. 2.*** **Note: Be sure to keep the tuner cover in position during this adjustment.**	IF-OUT  ***Fig. 1*** E-9CH  ***Fig. 2***

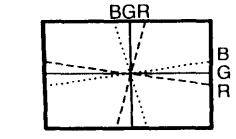
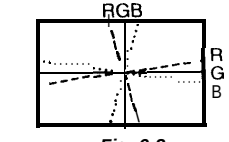
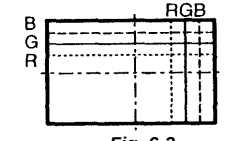
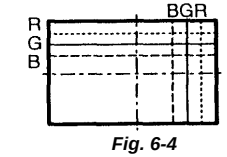
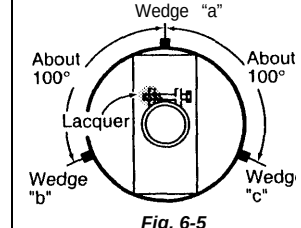
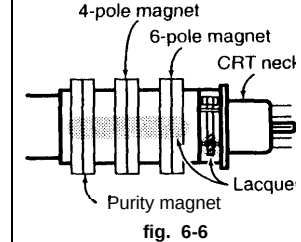
PIF/AFT/AGC ADJUSTMENT

lo.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	**VCO adjustment: T203**	1. Disconnect the antenna from the tuner antenna terminal. 2. Apply DC voltage to pin (4)(IF AGC) of IC201. • DC voltage: 6.0 V (allowable +0.1 V) 3. Using a digital voltmeter, measure the DC voltage at pin (20)(PLL FIL) of IC201. • The digital voltmeter must be able to take readings down to the third decimal place. 4. Relieve pin (4) of IC201 of the DC voltage. 5. Reconnect the antenna in position and receive the E-12CH signal. (With the AFT off, adjust the receiving frequency to 224.25 MHz.) 6. Connect the DC digital voltmeter to pin (20) of IC201. Adjust T203 so that the voltmeter should read the same voltage as in Step 3. Allowable error : 0.015 V (20 kHz)	• Warm up the unit for longer than 10 minutes in advance. * 10 kHz at about 0.007 V. • Position the T203 core in the range in which the E-l 2CH signal can be received.
2	**AFT adjustment: T204**	1. Receive the E-12CH (PAL colour bar) signal. If this signal is not available, any signal above the E-5CH band is acceptable. • Field strength : 55-80 dBµV Make sure the frequency is almost the same as that of the received channel (±30 kHz). 2. Using the channel setting control, make a frequency of 224.25 MHz appear on the screen (the AFT turns off). If any other channel than E-12CH is received, make its frequency on the screen. (The AFT turns off when the on-screen display turns yellow.) 3. Turn T204 clockwise to have a 6V point, and counterclockwise to have a 0.2-V point. Position the coil at the center of these two points. 4. Adjust T204 so that the DC voltage at pin (1) (AFT OUT terminal) of IC201 be 3.3 ±0.1 V. (See ***Fig. 3***)	DC voltage at TP201  ***Fig. 3*** • Turn the core counterclockwise for the UP direction, and clockwise for the DOWN direction. Adjust the T201 core to point E (between B' and B"). (Points A and C are rejectable.)
3	**RF AGC cut-in adjustment: R216**	1. Receive the E-12CH (PAL colour bar) signal. • Field strength : 57 ±1 dBµV (75 ohms open) 2. Connect the oscilloscope to TP210, as shown in ***Fig. 4.***  ***Fig. 4*** • Bias box: About 6.5 V 3. Turn R216 to have the highest voltage. 4. Turn R216 slowly in the opposite direction until the voltage goes down 0.1 V below the highest level. 5. Adjust thesignal level to 63-67 dBµV and make sure there is no noise. 6. Now adjust the signal level to 90-95 dBµV and make sure there is no chrominance modulation beat.	**Note: If a 50ohm field strength meter is used without a 50/75 impedance converter, set the field strength to 55 ±1 dBµV Pay attention to a loss that would be caused with the converter.**

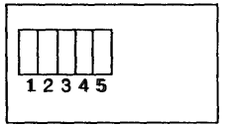
PURITY ADJUSTMENT

No.	Adjusting point	Adjusting procedure/conditions	Waveform and others
	Purity adjustment	1. Using the remote controller, make the screen colour green-only. Adjust the contrast control to have a beam current of about 500 μA (14")/700 μA (21"). 2. Degauss the cathode ray tube enough with the degaussing coil. **Note: Follow the Job Instruction Sheet to adjust the magnetic field.** **Vertical Bv : +0.030 mT (0.30 gauss)** **Horizontal Bh : +0.020 mT (0.20 gauss)** **See page 10.** 3. Keep the purity magnet in the zero magnetic field in advance. Roughly adjust the convergence. 4. Observe the points "a" and "b", as shown in ***Fig.*** 5-1, through a microscope. Adjust the landing to the rank "A" requirements. 5. Adjust the raster rotation to "0" eastward. 6. Tighten up the deflection coil screws. • Tightening torque: 108 ±20 N (11 ±2 kgf) 7. While observing the cathode ray tube corners. apply the magnet sheet to have the landing at rank "A". **Note: Before starting this adjustment, warm up the unit for 30 minutes or longer at a beam current of over 500 μA (14")/ 700 μA (21").** **Note: Set the service switch S1001 to call the service mode and press the single-colour key on the process remote controller to get the green-only screen.** • Each time the single-colour key is pressed, the screen colour changes as follows. Green-only screen → Blue-only screen → Red-only screen → Single-colour screen cleared	 *Fig. 5-1*  *Fig. 5-2* Rank "A" (on the right of the CRT)  *Fig. 5-3* Rank "A" (on the left of the CRT) • Whether in the service mode or not, hold down the single-colour key for 1 second or longer and the service mode is called. The TEXT key or the R.G.Cy key may be used instead to provide the single-colour screens.

CONVERGENCE ADJUSTMENT

No.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	**Convergence adjustment (to be done after the purity adjustment)**	1. Receive the E-2CH (crosshatch pattern) signal. 2. Using the remote controller, call the Normal mode. **STATIC CONVERGENCE** 1. Turn the 4-pole magnet to a proper opening angle in order to superimpose the blue and red colours. 2. Turn the 6-pole magnet to a proper opening angle in order to superimpose the green colour over the blue and red colours. **DYNAMIC CONVERGENCE** **1.** Adjust the convergence on the fringes of the screen in the following steps. **a) *Fig. 6-1*: Drive the wedge at point "a" and swing the deflection coil upward.** **b) *Fig. 6-2*: Drive the wedges at points "b" and "c" and swing the deflection coil downward.** **c) *Fig. 6-3*: Drive the "c" wedge deeper and swing the deflection coil rightward.** **d) *Fig.* 6-4: Drive the "b" wedge deeper and swing the deflection coil leftward.** 2. Fix all the wedges on the cathode ray tube and apply glass tape over them. 3. Apply lacquer to the deflection yoke lock screw, magnet unit (purity, 4-pole and 6-pole magnets), and magnet unit lock screw. Finally receive the red-only and blue-only signals and make sure there is no other colour mixed on the screen.	 *Fig. 6-1*  *Fig. 6-2*  *Fig. 6-3*  *Fig. 6-4*  *Fig. 6-5*  **fig. 6-6**

CRT CUT-OFF, BACKGROUND AND SUB-CONTRAST ADJUSTMENT

So.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	**CRT cut-off service mode: I²C bus data adjustment**	1. Receive the E-5CH (monoscope pattern) signal. 2. Using the remote controller, call up the P-NORM mode. 3. Turn on the service switch and select the cut-off/ background mode. 4. Set the screen control to 0/10 position. 5. Press the "9" key on the remote controller to reach the horizontal centering mode. 6. Turn the screen control clockwise until the horizontal raster of the first glimmering colour becomes slightly visible. 7. Adjust the cut-off data of the other two colours until the horizontal raster becomes whitish. 8. Turn the screen control counterclockwise until the horizontal raster disappears. **Note: Before starting this adjustment, warm up the unit for 30 minutes or longer at a beam current of over 500 µA (14")/ 700 µA (21").** 9. Press the "9" key on the remote controller to call the NORMAL mode. 10. Using the remote controller, call the sub-brightness setting mode. (Receive the E-2CH signal.) 11. Set the sub-brightness data so that the third black portion (1st to 5th counted from the left of the screen) of the window pattern looks sinking. **Note: The service mode adjustment in the above steps 10. and 11. should be carried out after the white balance and background adjustments.**	• First of all, make sure that the R/G/B cut-off and B/G drive data are all initial values. **Note:** **R CUT OFF UP "1" KEY** **DOWN "4" KEY** **G CUT OFF UP "2" KEY** **DOWN "5" KEY** **B CUT OFF UP "3" KEY** **DOWN "6" KEY** **The data can be turned up and down with the above keys.**  Make sure all the 1st, 2nd and 3rd black portions are at the same black level.

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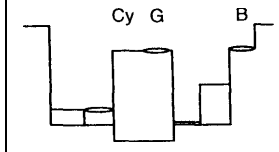
CRT CUT-OFF, BACKGROUND AND SUB-CONTRAST ADJUSTMENT (Continued)

lo.	Adjusting point	Adjusting procedure/conditions	Waveform and others
2	**White balance and background service mode: I²C bus data adjustment**	1. Receive the E-5CH (monoscope pattern) signal. 2. Using the remote controller, call up the Video Normal mode. 3. Connect the beam ammeter between TP601 and TP602. 4. Make sure the beam current is about 800 µA (14")/1,100 µA (21"). 5. Adjust the G-drive and B-drive data to have a colour temperature of 12,300°K (white). 6. Adjust the contrast and brightness controls to have the beam current of 200 µA. Now check the background colour. If the colour temperature is not as specified, go back to No. 1 on the preceding page. **Note: Before starting this adjustment, warm up the unit for 30 minutes or longer at a beam current of over 500 µA (14")/ 700 µA (21").**	See page 5. • 12300°K X: 0.273 Y : 0.276 (with colour temperature meter CA-100 (MINOLTA).) **Note:** **G-DRIVE UP "7" KEY** **DOWN "-/--" KEY** **B-DRIVE UP "8" KEY** **DOWN "0" KEY** **The data can be turned up and down with the above keys.**
3	**Maximum beam current (check item)**	1. Receive the E-5CH (monoscope pattern) signal. 2. Using the remote controller, call up the Video Normal mode. 3. Connect the beam ammeter between TP602 and TP603. • Ammeter's full-scale : 3 mA range • Ammeter's positive (+) lead : TP603 • Ammeter's negative (-) lead : TP602 4. Make sure the beam current is 800 ±100 µA (14")/ 1,100 ±100 µA (21"). **Note: Before starting this adjustment, warm up the unit for 30 minutes or longer at a beam current of over 500 µA (14")/ 700 µA (21").**	

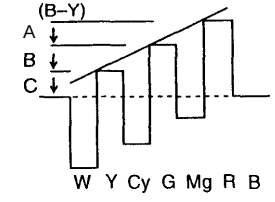
HORIZONTAL AND VERTICAL CIRCUIT ADJUSTMENT

lo.	Adiustina point	Adiustina procedure/conditions	Waveform and others
	V-AMP 50	1. Adjust the overscan to 9% (E-5).	The selected channels in parentheses have the following signals. (E-2): Crosshatch pattern (50 Hz) signal (E-5): Monoscope pattern (50 Hz) signal
	V-LINEARITY - *50* Hz	1. Adjust to get the best linearity.	
	V-S CORRECTION - 50 Hz	1. Preset (readjust if the linearity is poor).	
	V-SHIFT 50 (V-CENTER)	1. Align the screen center with the cathode ray tube's geometrical center (E-5).	
	H-SHIFT (50) (H-CENTER)	1. Align the screen center with the cathode ray tube's geometrical center (E-5). **Note: For the V-HEIGHT 60, V-LINEARITY 60, V-S CORRECTION 60, V-SHIFT 60 and H-SHIFT 60 adjustments, their corrected data are automatically entered when the corresponding 50 Hz mode adjustments are made.**	
2	**Focus adjustment**	1. Receive the E-5CH (monoscope pattern) signal. 2. Using the remote controller, call the Video Normal mode. 3. Adjust the focus control so that the screen be in good focus.	

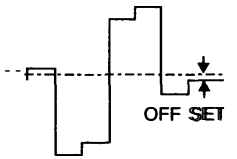
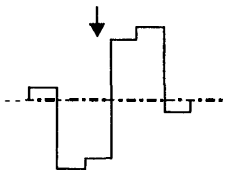
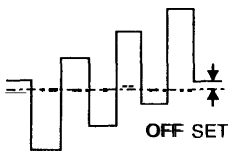
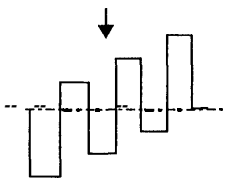
PAL CHROMA ADJUSTMENT

No.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	**Sub-colour adjustment: I²C bus adjustment**	1. Receive the E-I 2CH (PAL colour bar) signal. 2. Using the remote controller, call the Video Normal mode. 3. Connect the oscilloscope to TP851(14")/TP852 (21") (RED cathode). (Use a 10 : 1 probe.) • Range : 2 V/div. • Sweep time : 20 µsec/div. 4. Using the remote controller, call the sub-colour adjustment mode. Adjust the sub-colour data so that the 75% white and red portions of the PAL colour bar be at the same level. See Fig. 7. 5. Clear the adjustment mode. (Now the 100% white and red portions will be at the same level. The sub-colour data is up 20.) • Pin (3)(K) may be used instead of TP851(14")/TP852 (21") (RED cathode) for this adjustment. In such case, keep in mind that the polarity of the waveform is inverted.	 *Fig. 7*

NTSC CHROMA ADJUSTMENT

No.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	**Sub-tint adjustment: I²C bus adjustment**	1. Call the sub-tint adjustment mode. Receive the NTSC 3.58 colour bar signal in the A/V mode. 2. Connect the oscilloscope to pin (36)(B-Y) of IC801. • Range : 20 mV/div. (AC) • Sweep time : 20 µsec/div. (Use a 10 : 1 probe.) 3. Adjust the sub-tint data to obtain the waveform as shown in ***Fig. 8.*** 4. Clear the adjustment mode.	 *Fig. 8* A=B=C

SECAM CHROMA ADJUSTMENT

lo.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	**SECAM black level (R-Y/B-Y) adjustment: I²C bus adjustment**	1. Receive the Oi-5CH (SECAM colour bar) signal. 2. Call the SECAM black level adjustment R-Y mode. 3. Connect the oscilloscope to pin (34)(R-Y OUT, TP802) of IC801. • Range : 10 mV/div. • Sweep time : 20 µsec/div. (Use a 10 : 1 probe.) 4. Adjust the R-Y data so that the offset between the no-signal line and the signal line be minimum. ***See Fig. 9-1(b)***. 5. Call the SECAM black level adjustment B-Y mode. 6. Reconnect the oscilloscope to pin (33)(B-Y OUT, TP801) of IC801. The conditions are just the same as in Step 3. 7. Adjust the B-Y data so that the offset between the no-signal line and the signal line be minimum. See ***Fig. 9-2(b)***.	 *Fig. 9-1 (a)*  *Fig. 9-1 (b)*  *Fig. 9-2 (a)*  *Fig. 9-2 (b)*

PROTECTOR PERFORMANCE CHECK

lo.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	**Beam protector**	1. Receive the E-5CH (monoscope pattern) signal. 2. Set the contrast control to maximum. 3. Set the brightness control to maximum. 4. Make a short-circuit between the collector and emitter of Q851, Q852 or Q853 and make sure that the protector is activated and the stand-by mode is called.	• Short-circuit any of the Q851 0852 and Q853.
2	**High-voltage protector**	1. Receive the E-5CH (monoscope pattern) signal. 2. Connect the bias box to the cathode (R635 side) of D607. 3. Adjust the bias box voltage to 18 V and make sure that the protector is not activated. 4. Adjust the bias box voltage to 27 V and make sure that the protector is not activated.	
3	**Other protectors**	1. In checking the performance of other protectors — for example, the one against shorting of smoothing electrolytic capacitor of +B line —, pay attention not to damage or deteriorate any related element.	

A/V INPUT AND OUTPUT CHECK

lo.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	**Video and audio output** check	1. Receive the E-12CH colour bar (100% white colour bar, 400 Hz, 100% modulation audio) signal. 2. Terminate the video output with a 75 ohm impedance. Make sure the output is as specified (1.0 Vp-p ±3 dB). 3. Terminate the audio output with a 10k ohm impedance. Make sure the output is as specified (1.76 Vp-p ±3 dB).	
2	**Video and audio input check**	1. Using the TV/AV key on the remote controller, make sure that the modes change in the order of TV, AV1, AV2 and TV again and that the video and audio outputs are according to the input and output terminals for each mode.	

FUNCTION CHECK (VIDEO AND AUDIO)

lo.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	CONTRAST key	1. Receive the E-5CH signal. 2. Select the contrast on the P-MODE screen. 3. The contrast must be changeable with the UP/ DOWN key.	
2	COLOUR key	1. Receive the E-12CH signal. 2. Select the colour on the P-MODE screen. 3. The colour must be changeable with the UP/ DOWN key.	
3	BRIGHTNESS key	1. Receive the E-5CH signal. 2. Select the brightness on the P-MODE screen. 3. The black level must be changeable with the UP/ DOWN key.	
4	TINT key	1. Receive the NTSC colour bar signal. (A/V) 2. Select the tint on the P-MODE screen. 3. The tint must be changeable toward green with the UP key and toward red with the DOWN key.	
5	PIC-NOR. key	1. Press the NOR. key on the P-MODE screen to make sure all the displayed items are at normal settings. See below for the normal settings. • Contrast : MAX • Colour : CENTER • Brightness : CENTER • Tint : CENTER • Sharpness : CENTER	• The contrast, colour, brightness, tint and sharpness settings are all normal when these items dc not appear on the screen.
6	SHARPNESS key	1. Receive the E-5CH signal. 2. Select the sharpness on the P-MODE screen. 3. The sharpness must be changeable with the UP/ DOWN key.	
7	Channel sign display colour	1. The display colour of all the channel (0-99) signs must be green. Keep the AFT on.	

FUNCTION CHECK (VIDEO AND AUDIO) (Continued)

o.	Adjusting point	Adjusting procedure/conditions	Waveform and others
8	COLOUR SYSTEM key	1. Receive the E-I 2CH PAL colour bar signal. Using the COLOUR SYSTEM key, select a mode other than PAL and make sure the colour system does not work properly. 2. Receive the E-37CH NTSC 4.43 colour bar signal. Using the COLOUR SYSTEM key, select a mode other than N4.43 and make sure the colour system does not work properly. 3. Receive the NTSC 3.58 colour bar (A/V) signal. Using the COLOUR SYSTEM key, select a mode other than N3.58 and make sure the colour system does not work properly.	
9	SOUND SYSTEM key	I. Receive the OI-9CH PAL colour bar signal. Using the SOUND SYSTEM key, select B/G and I modes and make sure the sound system does not work properly. 2. Receive the E-23CH monoscope pattern signal. Using the SOUND SYSTEM key, select B/G and D/K modes and make sure the sound system does not work properly. 3. Receive the E-12CH colour bar signal. Using the SOUND SYSTEM key, select I and D/K modes and make sure the sound system does not work properly.	
IO	Noise mute check	1. Receive the E-12CH (PAL colour bar) signal. 2. Turn up the sound volume to maximum and make sure the sound is heard normally from the speakers. Then cut off the signal. 3. Make sure the sound muting functions. 4. Finally turn down the sound volume to minimum.	

MEMORY MAP (RH-iX2938)

SUB ADDRESS	DATA 7	6	5	4	3	2	1	0	REMARKS	CRITERIA	FACTORY SETTING
000	initialization judgment data "22"									Other than $22	$22
001	Initialization judgment data "29"									Other than $29	$29
002	Initialization judgment data "13"									Other than $13	$13
003	Initialization judgment data "48"									Other than $48	$48
004	PLL data (upper)								CH0		
005	PLL data (lower)										
006	PLL data (upper)								CH1		
007	PLL data (lower)										
008	PLL data (upper)								CH2		
009	PLL data (lower)										
00A	PLL data (upper)								CH3		
00B	PLL data (lower)										
00C	PLL data (upper)								CH4		
00D	PLL data (lower)										
00E	PLL data (upper)								CH5		
00F	PLL data (lower)										
010	PLL data (upper)								CH6		
011	PLL data (lower)										
012	PLL data (upper)								CH7		
013	PLL data (lower)										
014	PLL data (upper)								CH8		
015	PLL data (lower)										
016	PLL data (upper)								CH9		
017	PLL data (lower)										
018	PLL data (upper)								CH10		
019	PLL data (lower)										
01A	PLL data (upper)								CH11		
01B	PLL data (lower)										
01C	PLL data (upper)								CH12		
01D	PLL data (lower)										
01E	PLL data (upper)								CH13		
01F	PLL data (lower)										
020	PLL data (upper)								CH14		
021	PLL data (lower)										
022	PLL data (upper)								CH15		
023	PLL data (lower)										
024	PLL data (upper)								CH16		
025	PLL data (lower)										
026	PLL data (upper)								CH17		
027	PLL data (lower)										
028	PLL data (upper)								CH18		
029	PLL data (lower)										
02A	PLL data (upper)								CH19		
02B	PLL data (lower)										
02C	PLL data (upper)								CH20		
02D	PLL data (lower)										
02E	PLL data (upper)								CH21		
02F	PLL data (lower)										

SUB ADDRESS	DATA 7	6	5	4	3	2	1	0	REMARKS	CRITERIA	FACTORY SETTING
030	PLL data (upper)								CH22		
031	PLL data (lower)										
032	PLL data (upper)								CH23		
033	PLL data (lower)										
034	PLL data (upper)								CH24		
035	PLL data (lower)										
036	PLL data (upper)								CH25		
037	PLL data (lower)										
038	PLL data (upper)								CH26		
039	PLL data (lower)										
03A	PLL data (upper)								CH27		
03B	PLL data (lower)										
03C	PLL data (upper)								CH28		
03D	PLL data (lower)										
03E	PLL data (upper)								CH29		
03F	PLL data (lower)										
040	PLL data (upper)								CH30		
041	PLL data (lower)										
042	PLL data (upper)								CH31		
043	PLL data (lower)										
044	PLL data (upper)								CH32		
045	PLL data (lower)										
046	PLL data (upper)								CH33		
047	PLL data (lower)										
048	PLL data (upper)								CH34		
049	PLL data (lower)										
04A	PLL data (upper)								CH35		
04B	PLL data (lower)										
04C	PLL data (upper)								CH36		
04D	PLL data (lower)										
04E	PLL data (upper)								CH37		
04F	PLL data (lower)										
050	PLL data (upper)								CH38		
051	PLL data (lower)										
052	PLL data (upper)								CH39		
053	PLL data (lower)										
054	PLL data (upper)								CH40		
055	PLL data (lower)										
056	PLL data (upper)								CH41		
057	PLL data (lower)										
058	PLL data (upper)								CH42		
059	PLL data (lower)										
05A	PLL data (upper)								CH43		
05B	PLL data (lower)										
05C	PLL data (upper)								CH44		
05D	PLL data (lower)										
05E	PLL data (upper)								CH45		
05F	PLL data (lower)										

SUB ADDRESS	DATA 7	6	5	4	3	2	1	0	REMARKS	CRITERIA	FACTORY SETTING
060	PLL data (upper)								CH46		
061	PLL data (lower)										
062	PLL data (upper)								CH47		
063	PLL data (lower)										
064	PLL data (upper)								CH48		
065	PLL data (lower)										
066	PLL data (upper)								CH49		
067	PLL data (lower)										
068	PLL data (upper)								CH50		
069	PLL data (lower)										
06A	PLL data (upper)								CH51		
06B	PLL data (lower)										
06C	PLL data (upper)								CH52		
06D	PLL data (lower)										
06E	PLL data (upper)								CH53		
06F	PLL data (lower)										
070	PLL data (upper)								CH54		
071	PLL data (lower)										
072	PLL data (upper)								CH55		
073	PLL data (lower)										
074	PLL data (upper)								CH56		
075	PLL data (lower)										
076	PLL data (upper)								CH57		
077	PLL data (lower)										
078	PLL data (upper)								CH58		
079	PLL data (lower)										
07A	PLL data (upper)								CH59		
07B	PLL data (lower)										
07C	PLL data (upper)								CH60		
07D	PLL data (lower)										
07E	PLL data (upper)								CH61		
07F	PLL data (lower)										
080	PLL data (upper)								CH62		
081	PLL data (lower)										
082	PLL data (upper)								CH63		
083	PLL data (lower)										
084	PLL data (upper)								CH64		
085	PLL data (lower)										
086	PLL data (upper)								CH65		
087	PLL data (lower)										
088	PLL data (upper)								CH66		
089	PLL data (lower)										
08A	PLL data (upper)								CH67		
08B	PLL data (lower)										
08C	PLL data (upper)								CH68		
08D	PLL data (lower)										
08E	PLL data (upper)								CH69		
08F	PLL data (lower)										

SUB ADDRESS	DATA 7	6	5	4	3	2	1	0	REMARKS	CRITERIA	FACTORY SETTING
090	PLL data (upper)								CH70		
091	PLL data (lower)										
092	PLL data (upper)								CH71		
093	PLL data (lower)										
094	PLL data (upper)								CH72		
095	PLL data (lower)										
096	PLL data (upper)								CH73		
097	PLL data (lower)										
098	PLL data (upper)								CH74		
099	PLL data (lower)										
09A	PLL data (upper)								CH75		
09B	PLL data (lower)										
09C	PLL data (upper)								CH76		
09D	PLL data (lower)										
09E	PLL data (upper)								CH77		
09F	PLL data (lower)										
0A0	PLL data (upper)								CH78		
0A1	PLL data (lower)										
0A2	PLL data (upper)								CH79		
0A3	PLL data (lower)										
0A4	PLL data (upper)								CH80		
0A5	PLL data (lower)										
0A6	PLL data (upper)								CH81		
0A7	PLL data (lower)										
0A8	PLL data (upper)								CH82		
0A9	PLL data (lower)										
0AA	PLL data (upper)								CH83		
0AB	PLL data (lower)										
0AC	PLL data (upper)								CH84		
0AD	PLL data (lower)										
0AE	PLL data (upper)								CH85		
0AF	PLL data (lower)										
0B0	PLL data (upper)								CH86		
0B1	PLL data (lower)										
0B2	PLL data (upper)								CH87		
0B3	PLL data (lower)										
0B4	PLL data (upper)								CH88		
0B5	PLL data (lower)										
0B6	PLL data (upper)								CH89		
0B7	PLL data (lower)										
0B8	PLL data (upper)								CH90		
0B9	PLL data (lower)										
0BA	PLL data (upper)								CH91		
0BB	PLL data (lower)										
0BC	PLL data (upper)								CH92		
0BD	PLL data (lower)										
0BE	PLL data (upper)								CH93		
0BF	PLL data (lower)										

SUB ADDRESS	DATA 7	6	5	4	3	2	1	0	REMARKS	CRITERIA	FACTORY SETTING
0C0	PLL data (upper)								CH94		
0C1	PLL data (lower)										
0C2	PLL data (upper)								CH95		
0C3	PLL data (lower)										
0C4	PLL data (upper)								CH96		
0C5	PLL data (lower)										
0C6	PLL data (upper)								CH97		
0C7	PLL data (lower)										
0C8	PLL data (upper)								CH98		
0C9	PLL data (lower)										
0CA	PLL data (upper)								CH99		
0CB	PLL data (lower)										
0CC	POWER	TV/AV									80
0CD	BLUE BACKGROUND	One-digit/two-digit							OFF/.	Factory-set at ON	5 5
0CE	LANGUAGE										00
0CF	LAST POSITION										01
0D0	LAST CONTRAST										---F---
0D1	LAST COLOUR										---r---
0D2	LAST BRIGHTNESS										1F
0D3	LAST TINT										1F
0D4	LAST SHARPNESS										---T--
0D5	LAST VOLUME										----E--
0D6	LAST SERVICE MODE										00
0D7											
0D8											
0D9											
0DA											
0DB											
0DC											
0DD											
0DE											
0DF											
0E0	CH7	CH5	CH5	CH4	CH3	CH2	CH1	CH0	AFT	AFT OFF	FF
0E1	CH15	CH14	CH13	CH12	CH11	CH10	CH9	CH8	0 : OFF		
0E2	CH23	CH22	CH21	CH20	CH19	CH18	CH17	CH16	1 : ON		
0E3	CH31	CH30	CH29	CH28	CH27	CH26	CH25	CH24			
0E4	CH39	CH38	CH37	CH36	CH35	CH34	CH33	CH32			
0E5	CH47	CH46	CH45	CH44	CH43	CH42	CH41	CH40			
0E6	CH55	CH54	CH53	CH52	CH51	CH50	CH49	CH48			
0E7	CH63	CH62	CH61	CH60	CH59	CH58	CH57	CH56			
0E8	CH71	CH70	CH69	CH68	CH67	CH66	CH65	CH64			
0E9	CH79	CH78	CH77	CH76	CH75	CH74	CH73	CH72			
0EA	CH87	CH86	CH85	CH84	CH83	CH82	CH81	CH80			
0EB	CH95	CH94	CH93	CH92	CH91	CH90	CH89	CH88			
0EC					CH99	CH98	CH97	CH96			
0ED											
0EE											
0EF											

SUB ADDRESS	DATA 7	6	5	4	3	2	1	0	REMARKS	CRITERIA	FACTORY SETTING
0F0	CH7	CH5	CH5	CH4	CH3	CH2	CH1	CH0	SKIP	SKIP ON	00
0F1	CH15	CH5	CH5	CH4	CH3	CH2	CH1	CH0	0 : OFF		
0F2	CH23	CH22	CH21	CH20	CH19	CH18	CH17	CH16	1 : ON		
0F3	CH31	CH30	CH29	CH28	CH27	CH26	CH25	CH24			
0F4	CH39	CH38	CH37	CH36	CH35	CH34	CH33	CH32			
0F5	CH47	CH46	CH45	CH44	CH43	CH42	CH41	CH40			
0F6	CH55	CH54	CH53	CH52	CH51	CH50	CH49	CH48			
0F7	CH63	CH62	CH61	CH60	CH59	CH58	CH57	CH56			
0F8	CH71	CH70	CH69	CH68	CH67	CH66	CH65	CH64			
0F9	CH79	CH78	CH77	CH76	CH75	CH74	CH73	CH72			
0FA	CH87	CH86	CH85	CH84	CH83	CH82	CH81	CH80			
0FB	CH95	CH94	CH93	CH92	CH91	CH90	CH89	CH88			
0FC					CH99	CH98	CH97	CH96			
0FD											
0FE											
0FF											

SUB ADDRESS	DATA 7	6	5	4	3	2	1	0	REMARKS	CRITERIA	FACTORY SETTING
100	AUDIO SYSTEM				VIDEO SYSTEM				CH0		
101	AUDIO SYSTEM				VIDEO SYSTEM				CH1		
102	AUDIO SYSTEM				VIDEO SYSTEM				CH2		
103	AUDIO SYSTEM				VIDEO SYSTEM				CH3		
104	AUDIO SYSTEM				VIDEO SYSTEM				CH4		
105	AUDIO SYSTEM				VIDEO SYSTEM				CH5		
106	AUDIO SYSTEM				VIDEO SYSTEM				CH6		
107	AUDIO SYSTEM				VIDEO SYSTEM				CH7		
108	AUDIO SYSTEM				VIDEO SYSTEM				CH8		
109	AUDIO SYSTEM				VIDEO SYSTEM				CH9		
10A	AUDIO SYSTEM				VIDEO SYSTEM				CH10		
10B	AUDIO SYSTEM				VIDEO SYSTEM				CH11		
10C	AUDIO SYSTEM				VIDEO SYSTEM				CH12		
10D	AUDIO SYSTEM				VIDEO SYSTEM				CH13		
10E	AUDIO SYSTEM				VIDEO SYSTEM				CH14		
10F	AUDIO SYSTEM				VIDEO SYSTEM				CH15		
110	AUDIO SYSTEM				VIDEO SYSTEM				CH16		
111	AUDIO SYSTEM				VIDEO SYSTEM				CH17		
112	AUDIO SYSTEM				VIDEO SYSTEM				CH18		
113	AUDIO SYSTEM				VIDEO SYSTEM				CH19		
114	AUDIO SYSTEM				VIDEO SYSTEM				CH20		
115	AUDIO SYSTEM				VIDEO SYSTEM				CH21		
116	AUDIO SYSTEM				VIDEO SYSTEM				CH22		
117	AUDIO SYSTEM				VIDEO SYSTEM				CH23		
118	AUDIO SYSTEM				VIDEO SYSTEM				CH24		
119	AUDIO SYSTEM				VIDEO SYSTEM				CH25		
11A	AUDIO SYSTEM				VIDEO SYSTEM				CH26		
11B	AUDIO SYSTEM				VIDEO SYSTEM				CH27		
11C	AUDIO SYSTEM				VIDEO SYSTEM				CH28		
11D	AUDIO SYSTEM				VIDEO SYSTEM				CH29		
11E	AUDIO SYSTEM				VIDEO SYSTEM				CH30		
11F	AUDIO SYSTEM				VIDEO SYSTEM				CH31		
120	AUDIO SYSTEM				VIDEO SYSTEM				CH32		
121	AUDIO SYSTEM				VIDEO SYSTEM				CH33		
122	AUDIO SYSTEM				VIDEO SYSTEM				CH34		
123	AUDIO SYSTEM				VIDEO SYSTEM				CH35		
124	AUDIO SYSTEM				VIDEO SYSTEM				CH36		
125	AUDIO SYSTEM				VIDEO SYSTEM				CH37		
126	AUDIO SYSTEM				VIDEO SYSTEM				CH38		
127	AUDIO SYSTEM				VIDEO SYSTEM				CH39		
128	AUDIO SYSTEM				VIDEO SYSTEM				CH40		
129	AUDIO SYSTEM				VIDEO SYSTEM				CH41		
12A	AUDIO SYSTEM				VIDEO SYSTEM				CH42		
12B	AUDIO SYSTEM				VIDEO SYSTEM				CH43		
12C	AUDIO SYSTEM				VIDEO SYSTEM				CH44		
12D	AUDIO SYSTEM				VIDEO SYSTEM				CH45		
12E	AUDIO SYSTEM				VIDEO SYSTEM				CH46		
12F	AUDIO SYSTEM				VIDEO SYSTEM				CH47		

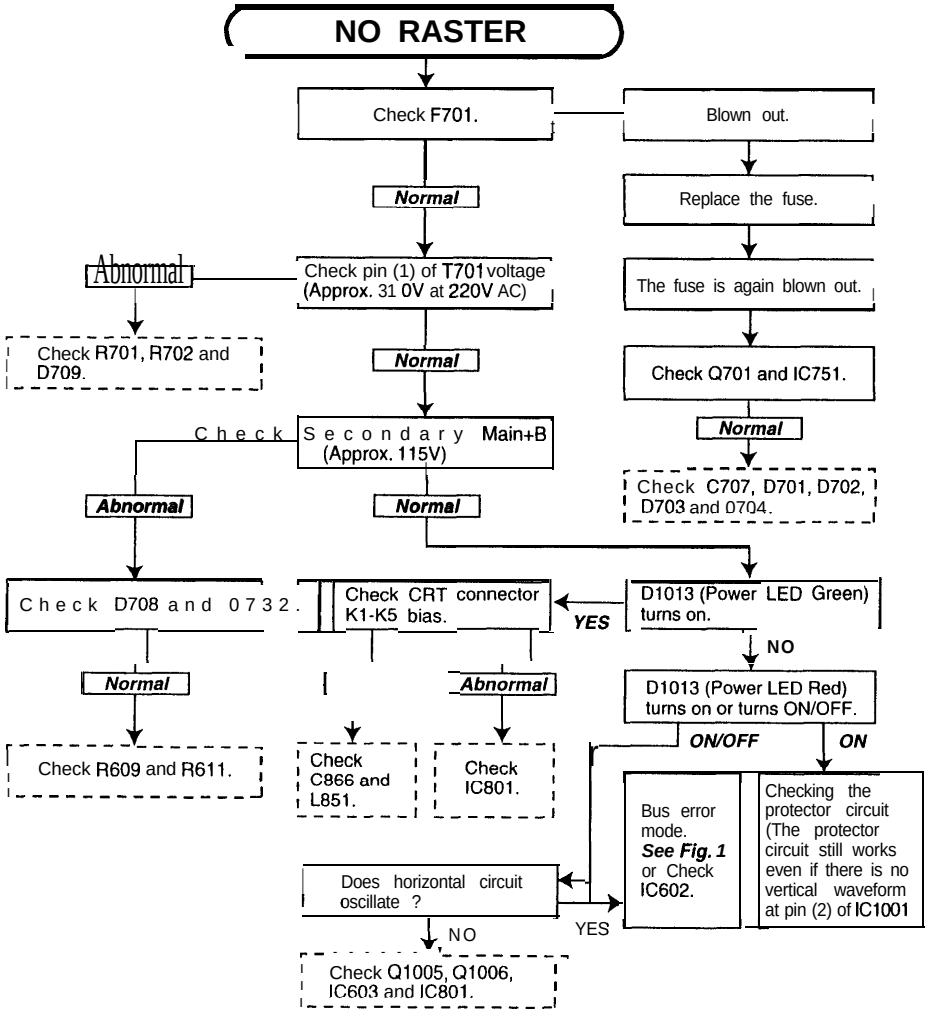
SUB ADDRESS	DATA 7	6	5	4	3	2	1	0	REMARKS	CRITERIA	FACTORY SETTING
130	AUDIO SYSTEM				VIDEO SYSTEM				CH48		
131	AUDIO SYSTEM				VIDEO SYSTEM				CH49		
132	AUDIO SYSTEM				VIDEO SYSTEM				CH50		
133	AUDIO SYSTEM				VIDEO SYSTEM				CH51		
134	AUDIO SYSTEM				VIDEO SYSTEM				CH52		
135	AUDIO SYSTEM				VIDEO SYSTEM				CH53		
136	AUDIO SYSTEM				VIDEO SYSTEM				CH54		
137	AUDIO SYSTEM				VIDEO SYSTEM				CH55		
138	AUDIO SYSTEM				VIDEO SYSTEM				CH56		
139	AUDIO SYSTEM				VIDEO SYSTEM				CH57		
13A	AUDIO SYSTEM				VIDEO SYSTEM				CH58		
13B	AUDIO SYSTEM				VIDEO SYSTEM				CH59		
13C	AUDIO SYSTEM				VIDEO SYSTEM				CH60		
13D	AUDIO SYSTEM				VIDEO SYSTEM				CH61		
13E	AUDIO SYSTEM				VIDEO SYSTEM				CH62		
13F	AUDIO SYSTEM				VIDEO SYSTEM				CH63		
140	AUDIO SYSTEM				VIDEO SYSTEM				CH64		
141	AUDIO SYSTEM				VIDEO SYSTEM				CH65		
142	AUDIO SYSTEM				VIDEO SYSTEM				CH66		
143	AUDIO SYSTEM				VIDEO SYSTEM				CH67		
144	AUDIO SYSTEM				VIDEO SYSTEM				CH68		
145	AUDIO SYSTEM				VIDEO SYSTEM				CH69		
146	AUDIO SYSTEM				VIDEO SYSTEM				CH70		
147	AUDIO SYSTEM				VIDEO SYSTEM				CH71		
148	AUDIO SYSTEM				VIDEO SYSTEM				CH72		
149	AUDIO SYSTEM				VIDEO SYSTEM				CH73		
14A	AUDIO SYSTEM				VIDEO SYSTEM				CH74		
14B	AUDIO SYSTEM				VIDEO SYSTEM				CH75		
14C	AUDIO SYSTEM				VIDEO SYSTEM				CH76		
14D	AUDIO SYSTEM				VIDEO SYSTEM				CH77		
14E	AUDIO SYSTEM				VIDEO SYSTEM				CH78		
14F	AUDIO SYSTEM				VIDEO SYSTEM				CH79		
150	AUDIO SYSTEM				VIDEO SYSTEM				CH80		
151	AUDIO SYSTEM				VIDEO SYSTEM				CH81		
152	AUDIO SYSTEM				VIDEO SYSTEM				CH82		
153	AUDIO SYSTEM				VIDEO SYSTEM				CH83		
154	AUDIO SYSTEM				VIDEO SYSTEM				CH84		
155	AUDIO SYSTEM				VIDEO SYSTEM				CH85		
156	AUDIO SYSTEM				VIDEO SYSTEM				CH86		
157	AUDIO SYSTEM				VIDEO SYSTEM				CH87		
158	AUDIO SYSTEM				VIDEO SYSTEM				CH88		
159	AUDIO SYSTEM				VIDEO SYSTEM				CH89		
15A	AUDIO SYSTEM				VIDEO SYSTEM				CH90		
15B	AUDIO SYSTEM				VIDEO SYSTEM				CH91		
15C	AUDIO SYSTEM				VIDEO SYSTEM				CH92		
15D	AUDIO SYSTEM				VIDEO SYSTEM				CH93		
15E	AUDIO SYSTEM				VIDEO SYSTEM				CH94		
15F	AUDIO SYSTEM				VIDEOSYSTEM				CH95		

SUB ADDRESS	DATA 7	6	5	4	3	2	1	0	REMARKS	CRITERIA	FACTORY SETTING
160	AUDIO SYSTEM				VIDEO SYSTEM				CH96		
161	AUDIO SYSTEM				VIDEO SYSTEM				CH97		
162	AUDIO SYSTEM				VIDEO SYSTEM				CH98		
163	AUDIO SYSTEM				VIDEO SYSTEM				CH99		
164	AUDIO SYSTEM				VIDEO SYSTEM				A/V MODE		
165											
166											
167											
168											
169											
16A											
16B											
16C											
16D											
16E											
16F											
170	CUT OFF (R)								0		00
171	CUT OFF (G)								0		00
172	CUT OFF (B)								0		00
173	DRIVE (G)								127		7F
174	DRIVE (R)								127		7F
175				TV H-CENTER (50Hz)					7		07
176				TV H-CENTER (60Hz)					12		0C
177	H BLK PHASE				V-CENTER 50				0,5		05
178	V-AMPLITUDE 50								58		74
179	V S-CORRECTION 50								67	54 (14")	86
17A	V-LINEALITY 50								16		80
17B	Y SUB CONTRAST								18		12
17C	SUB COLOUR								110		6E
17D	SUB BRIGHT								127		7F
17E	SUB TINT								70		46
17F	SUB SHARPNESS								28		1C
180	DELAY PAL (AV)				DELAY PAL (TV)				2,2		22
181	DELAY SECAM (AV)				DELAY SECAM (TV)				4,4		44
182	DELAY NTSC (AV)				DELAY NTSC (TV)				2,2		22
183	DELAY B/W (AV)				DELAY B/W (TV)				2,2		22
184	R-Y BLACK OFFSET				B-Y BLACK OFFSET				10,6		A6
185					Y-MUTE	AV2			OFF/ON		04
186						V-CENTER 60			2		02
187	V-AMPLITUDE 60								59	57 (14")	76
188	V S-CORRECTION 60								74		E8
189	V-LINEARITY 60								14		70
18A			WIDE V-BLK START PHASE 50						58		3A
18B			WIDE V-BLK START PHASE 60						60		3C
18C		WIDE V-BLK STOP PHASE 50							25		19
18D		WIDE V-BLK STOP PHASE 60							20		14
18E	SUB CONTRAST								255		FF
18F											

SUB ADDRESS	DATA 7	6	5	4	3	2	1	0	REMARKS	CRITERIA	FACTORY SETTING
190	P/N KIL	NOISE DET							0		00
191	RGB CONTRAST								255		FF
192	Y γ	WPL SW							0,0		00
193						AFC MODE			1		02
194	B.S OFF				P/N GP	CL-L SW			0,0,1		00
195	CLL LEVEL		PN CD ATT						2,2		A0
196	BLACK STRETCH OFFSET		DC TRAN RATE			APA-CON F0			7,2,2		EA
197	ABL POINT		ABL GAIN						0,1		04
198						COINCIDENT			0		01*
199	NOISE DET LEVEL								0		00
19A	N COMB								1		00
19B	S-FIELD	SCD ATT	DEMP F0	S GP	V-ID SW	S KIL	BELL F0				21
19C											
19D											
19E											
19F											
1A0	TOF Q (AV)		TOF F0 (AV)		TOF Q (TV)		TOF F0 (TV)		PAL		8B
1A1	TOF Q (AV)		TOF F0 (AV)		TOF Q (TV)		TOF F0 (TV)		SECAM		8B
1A2	TOF Q (AV)		TOF F0 (AV)		TOF Q (TV)		TOF F0 (TV)		N443		8B
1A3	TOF Q (AV)		TOF F0 (AV)		TOF Q (TV)		TOF F0 (TV)		N358		8B
1A4	C-TRAP Q (AV)		C-TRAP F0 (AV)		C-TRAP Q (TV)		C-TRAP F0 (TV)		PAL		66
1A5	C-TRAP Q (AV)		C-TRAP F0 (AV)		C-TRAP Q (TV)		C-TRAP F0 (TV)		SECAM		66
1A6	C-TRAP Q (AV)		C-TRAP F0 (AV)		C-TRAP Q (TV)		C-TRAP F0 (TV)		N443		66
1A7	C-TRAP Q (AV)		C-TRAP F0 (AV)		C-TRAP Q (TV)		C-TRAP F0 (TV)		N358		66
1A8	N358 SHARPNESS								10		0A
1A9	N358 TR								ON		00
1AA											
1AB											
1AC											
1AD											
1AE											
1AF											
1B0											
1B1											
1B2											
1B3											
1B4											
1B5											
1B6											
1B7											
1B8											
1B9											
1BA											
1BB											
1BC											
1BD											
1BE											
1BF											

* : The initial setting of the RH-iX2938CEZZ/N1 must be changed from 00 to 01. With the RH-iX2938CEN2, there is no need to change the initial setting.

TROUBLE SHOOTING TABLE



If a bus error happens, the LED RED (pin 3) indicator starts flashing and the power is turned off. The power key is still effective.

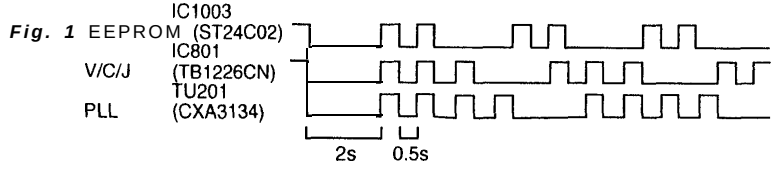
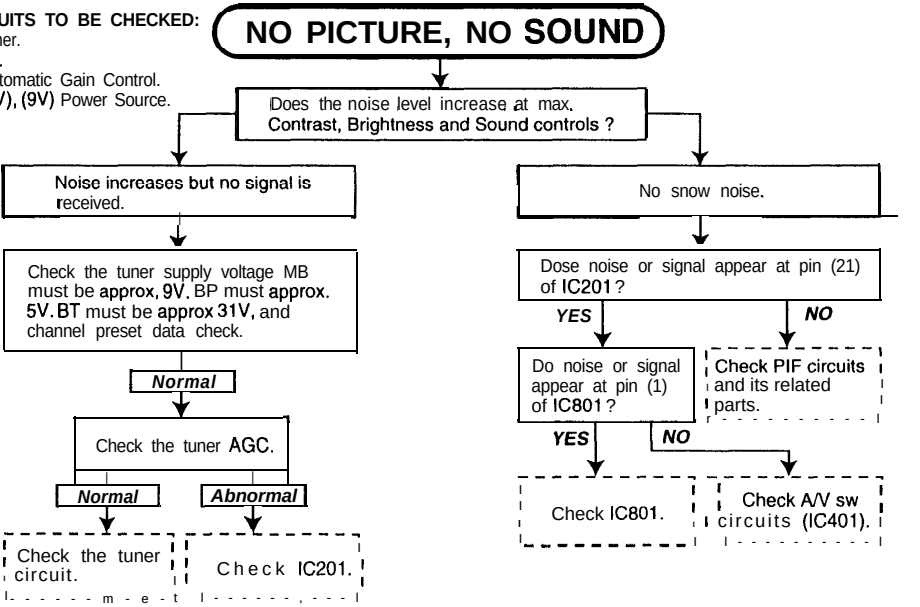


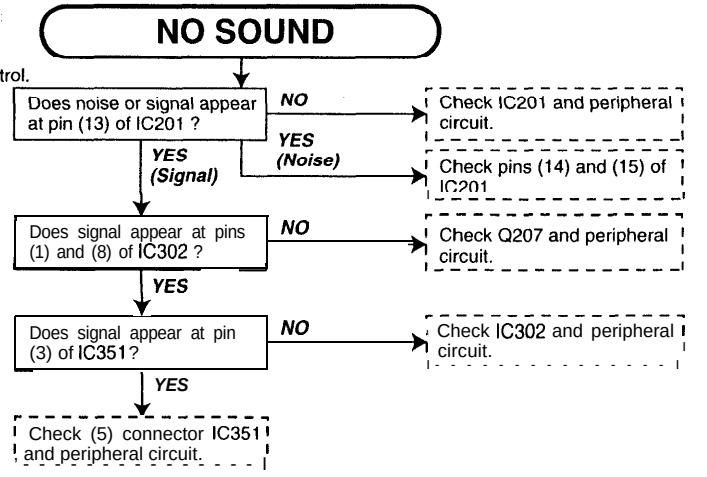
Fig. 1

TROUBLE SHOOTING TABLE (Continued)

CIRCUITS TO BE CHECKED:
- Tuner.
- PIF.
- Automatic Gain Control.
- (5V), (9V) Power Source.


NO PICTURE, NO SOUND
Does the noise level increase at max. Contrast, Brightness and Sound controls ?
Noise increases but no signal is received.
No snow noise.
Check the tuner supply voltage MB must be approx, 9V. BP must approx. 5V. BT must be approx 31V, and channel preset data check.
Dose noise or signal appear at pin (21) of IC201?
YES
NO
Do noise or signal appear at pin (1) of IC801?
Check PIF circuits and its related parts.
YES
NO
Normal
Check the tuner AGC.
Check IC801.
Check A/V sw circuits (IC401).
Normal
Abnormal
Check the tuner circuit.
Check IC201.

CIRCUITS TO BE CHECKED:
- SIF Amplifier Circuit.
- Sound Detector Circuit.
- Sound Switch and ATT. Control.
- Audio Output Circuit.


NO SOUND
Does noise or signal appear at pin (13) of IC201 ?
NO
Check IC201 and peripheral circuit.
YES (Noise)
YES (Signal)
Check pins (14) and (15) of IC201.
Does signal appear at pins (1) and (8) of IC302 ?
NO
Check Q207 and peripheral circuit.
YES
Does signal appear at pin (3) of IC351?
NO
Check IC302 and peripheral circuit.
YES
Check (5) connector IC351 and peripheral circuit.

TROUBLE SHOOTING TABLE (Continued)

NEITHER VERTICAL NOR HORIZONTAL SYNCHRONIZATION

CIRCUIT TO BE CHECKED:
- Sync. Separator Circuit.

→ Check IC801 and Q401.

DEFECTIVE VERTICAL AMP. AND VERTICAL LINEARITY

→ Readjust vertical size. (Bas Data)

- Vertical size is abnormal. → Check R510, C513, C514 and C501.
- Vertical linearity is abnormal. → Check C515, C519, R511, R513 and R514.

NO VERTICAL SCAN

→ Check IC501 bias.

- *Normal* → Check C506.
- *Abnormal* → Check IC501.

TROUBLE SHOOTING TABLE (Continued)

NO SPECIFIC COLOUR

→ Is some colour produced in B/W broadcast reception ?

- NO → Check IC801, R809, R810, R811, D801, D802, D803, Q801, Q802, Q803,Q804 and Q805.
- *YES* → Is the white balance properly adjusted ?
  - NO → Readjust the white balance.
  - The picture colour is cyan. → Check Q851 and its adjacent circuits.
  - The picture colour is magenta. → Check Q852 and its adjacent circuits.
  - The picture colour is yellow. → Check Q853 and its adjacent circuits.

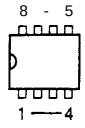
NO SPECIFIC COLOUR "PAL"/"SECAM"/"NTSC" (NO COLOUR SYNCHRONISATION)

→ Check IC801 and bias control circuit.

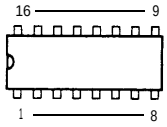
- "PAL"/"NTSC" → *Normal* → Check X801, C810, C815, C816 and R814.
- "SECAM" → *Normal* → Check C901 and pin (31) of IC1001.

SOLID STATE DEVICE BASE DIAGRAM

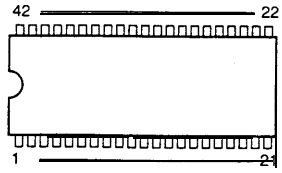
TOP VIEW



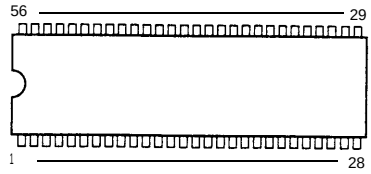
ST24C04



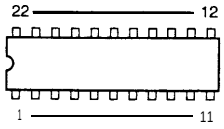
iX1779CE



iX2938

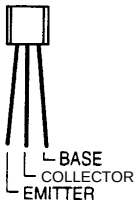


TB1226

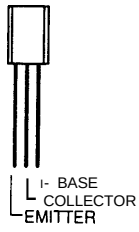


BA7357S

SIDE VIEW



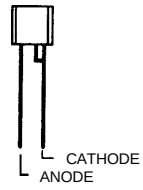
2SA1015
2SC1815
2SC1906



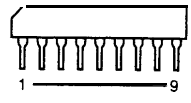
2SC2229
2SC2482

KiA7045P
TA78L09

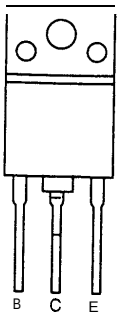
UPC78L05



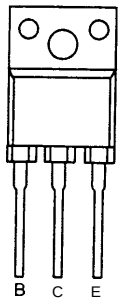
iX0037CE



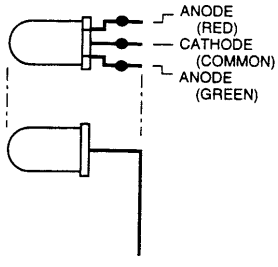
TA7348P



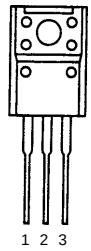
2582586
2SD1877



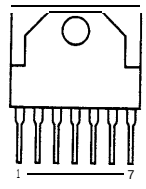
2SD1884



PX0003PE



KA7809
KA7805



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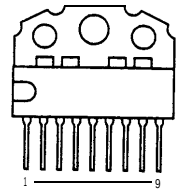
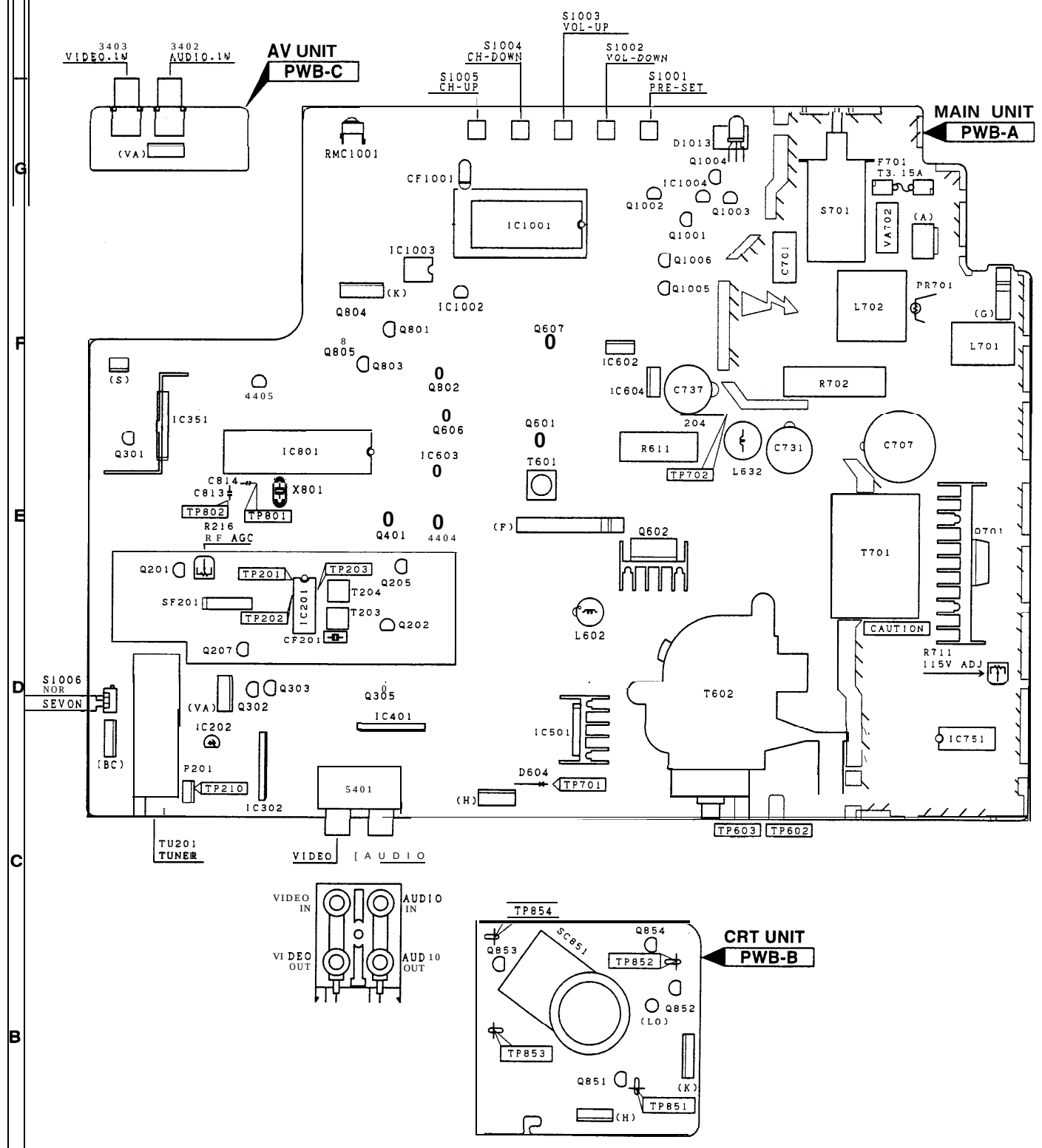
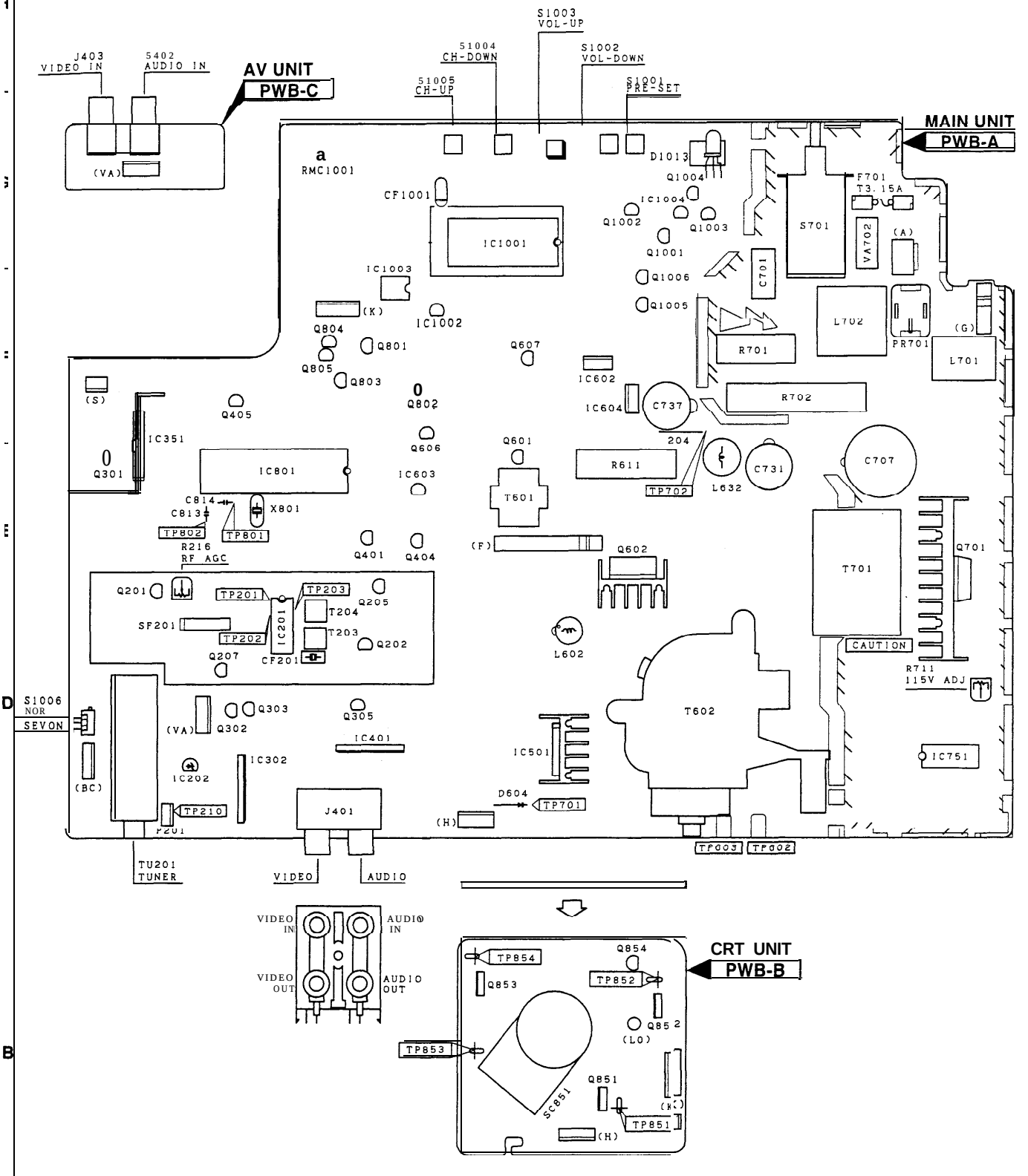


TDA7056A

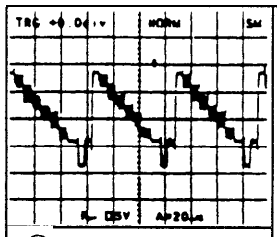
MODEL CX-34G3 CHASSIS LAYOUT



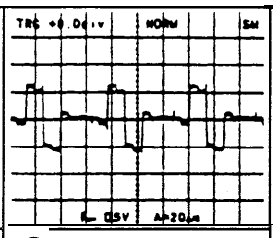
MODELCX-51G3 CHASSIS LAYOUT



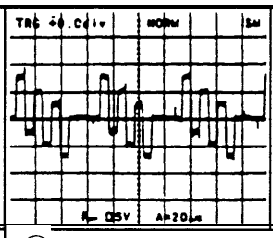
WAVEFORMS



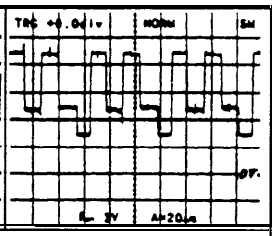
① 2.0 Vp-p (H)



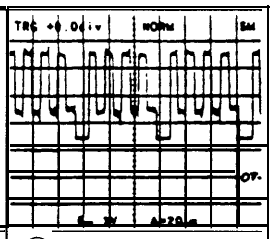
② 1.3 Vp-p (H)



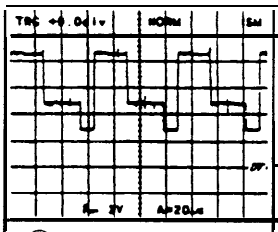
③ 1.5 Vp-p (H)



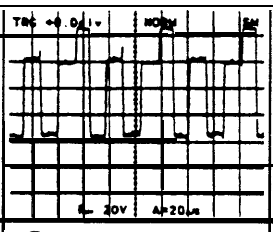
④ 3.0 Vp-p (H)



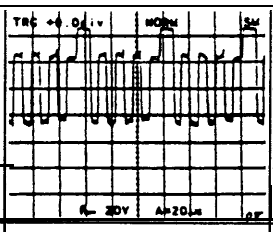
⑤ 3.0 Vp-p (H)



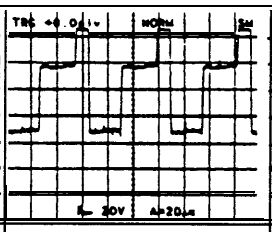
⑥ 3.0 Vp-p (H)



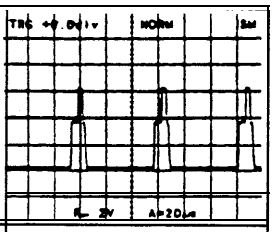
⑦ 58 Vp-p (H)
(CX-34G3)
80 Vp-p (H)
(CX-51G3)



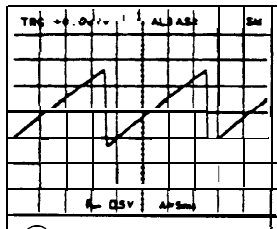
⑧ 70 Vp-p (H)
(CX-34G3)
80 Vp-p (H)
(CX-51G3)



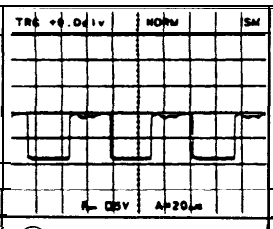
⑨ 54 Vp-p (H)
(CX-34G3)
80 Vp-p (H)
(CX-51G3)



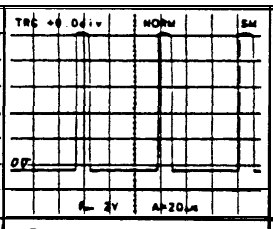
⑩ 5.7 Vp-p (H)



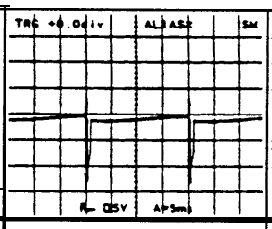
⑪ 1.8 Vp-p (H)



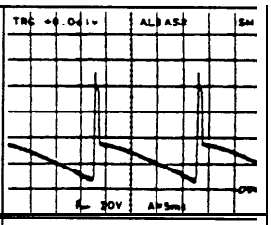
⑫ 0.8 Vp-p (H)



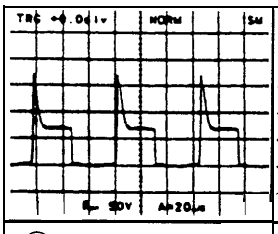
⑬ 9.2 Vp-p (H)



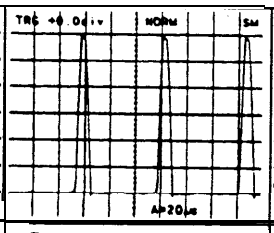
⑭ 1.4 Vp-p (H)
(CX-34G3)
1.8 Vp-p (H)
(CX-51G3)



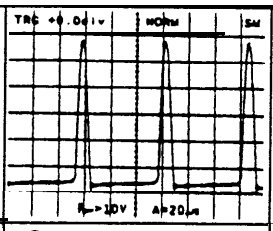
⑮ 50 Vp-p (H)
(CX-34G3)
55 Vp-p (H)
(CX-51G3)



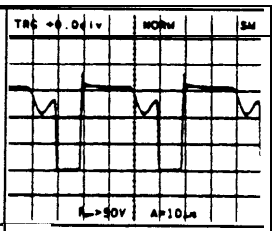
⑯ 140 Vp-p (H)
(CX-34G3)
145 Vp-p (H)
(CX-51G3)



⑰ 950 Vp-p (H)
(CX-34G3)
1000 Vp-p (H)
(CX-51G3)



⑱ 150 Vp-p (H)

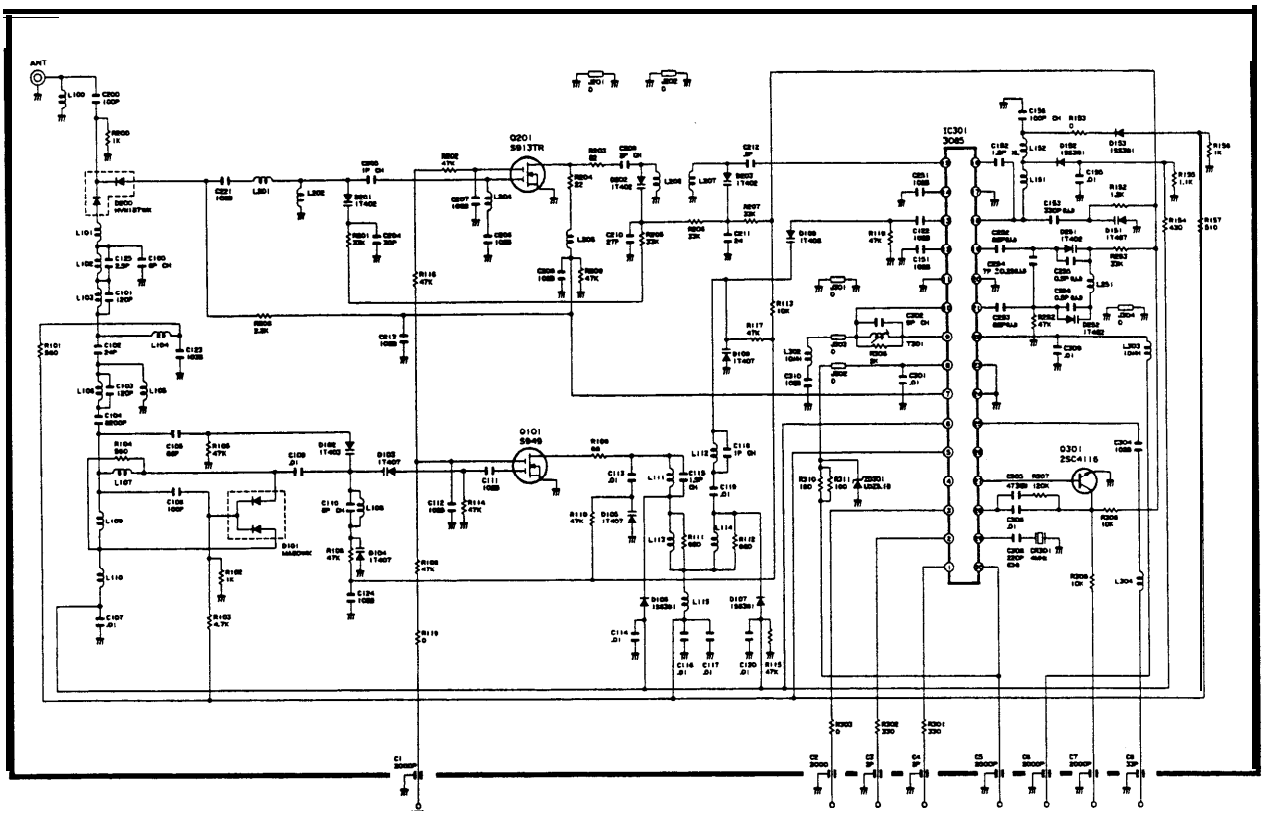


⑲ 520 Vp-p (H)

■ Tuner

⚠VTUVTST6HD64/

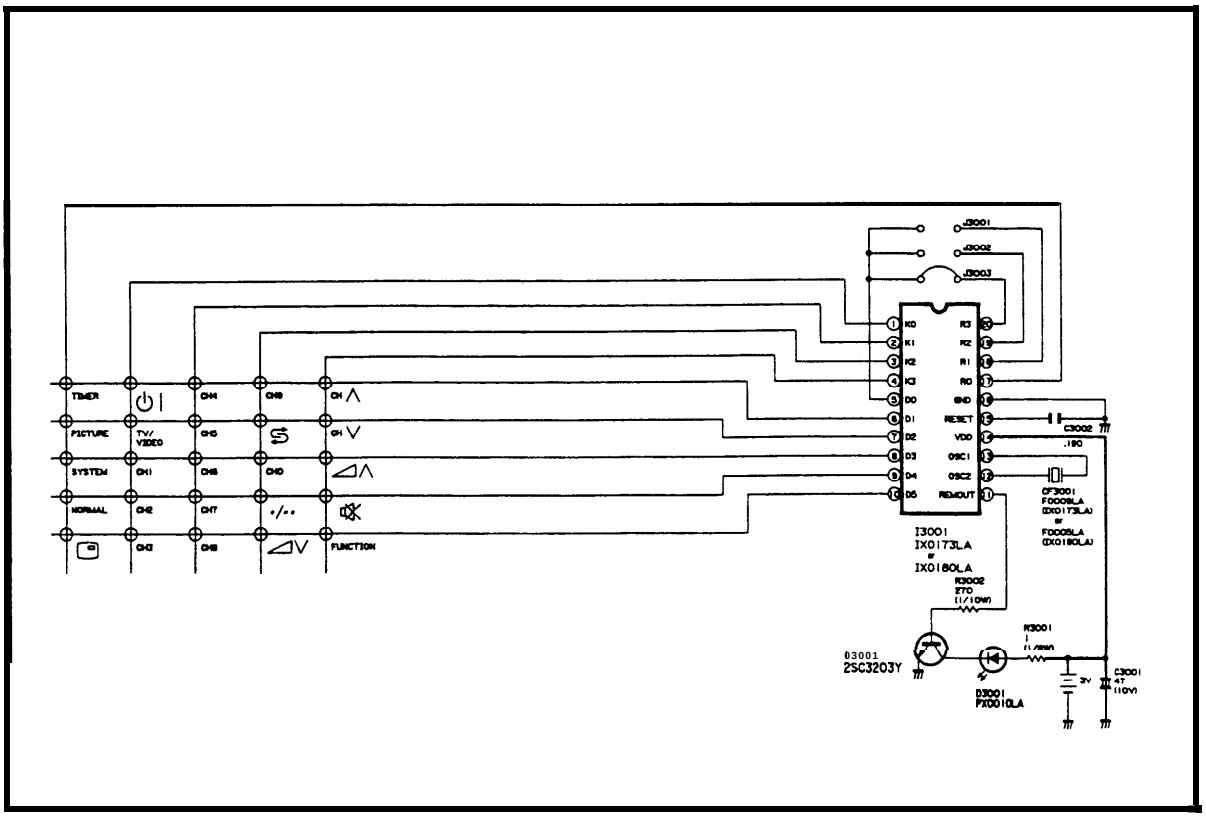
NOTE: The parts here shown are supplied as an assembly but not independently.



■ Infrared Remote Control Unit

RRMCG1342PESA

NOTE: The parts here shown are supplied as an assembly but not independently.



DESCRIPTION OF SCHEMATIC DIAGRAM

SAFETY NOTES:

1. DISCONNECT THE AC PLUG FROM THE AC OUTLET BEFORE REPLACING PARTS.
2. SEMICONDUCTOR HEAT SINKS SHOULD BE REGARDED AS POTENTIAL SHOCK HAZARDS WHEN THE CHASSIS IS OPERATING.

IMPORTANT SAFETY NOTICE:

PARTS MARKED WITH "⚠" ( ) ARE IMPORTANT FOR MAINTAINING THESAFETY OF THE SET BE SURE TO REPLACE THESE PARTS WITH SPECIFIED ONES FOR MAINTAINING THE SAFETYAND PERFORMANCE OF THE SET

SERVICE PRECAUTION:

THE AREA ENCLOSED BY THIS LINE (▬ ▪ ▬) IS DIRECTLY CONNECTED WITH AC MAINS VOLTAGE.
WHEN SERVICING THE AREA, CONNECTAN ISOLATING TRANSFORMER BETWEEN TV RECEIVER AND AC LINE TO ELIMINATE HAZARD OF ELECTRIC SHOCK.

NOTES:

1. The unit of resistance "ohm" is omitted. (K = 1000 ohms, M = Meg ohm).
2. All resistors are 1/8 watt, unless otherwise noted.
3. All capacitors are μF, unless therwise noted. (P = μμF).

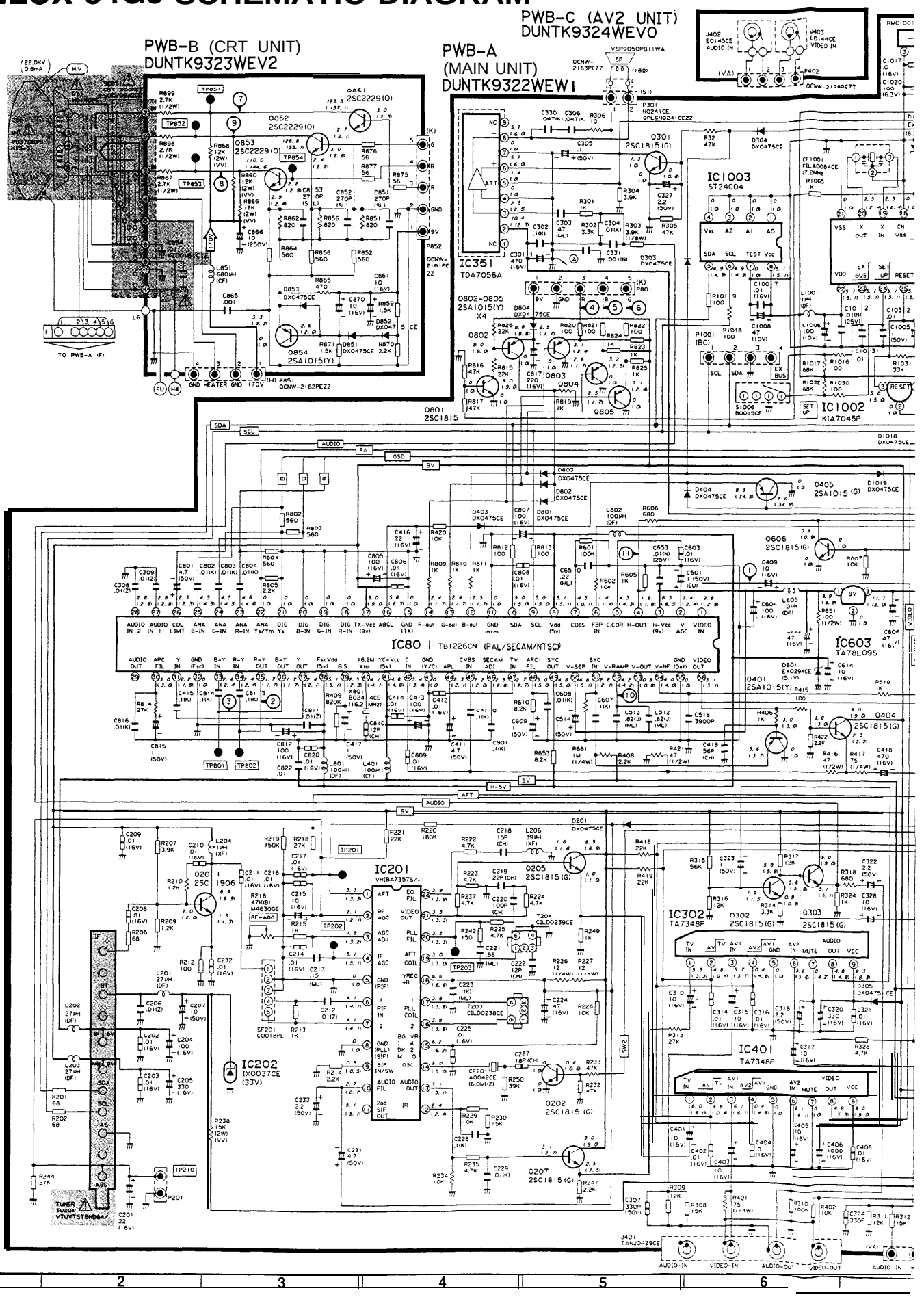
VOLTAGE MEASUREMENT CONDITIONS:

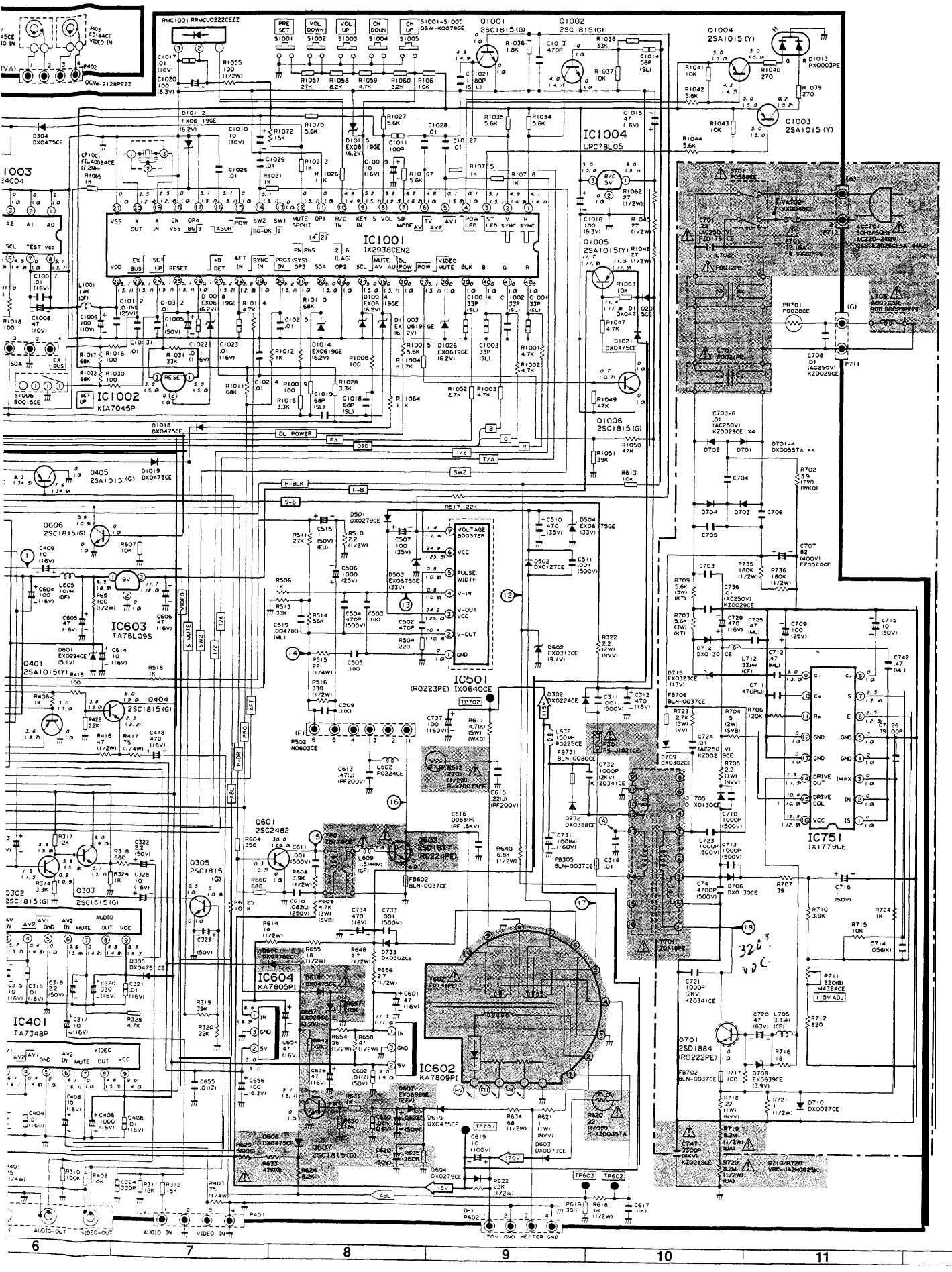
1. Voltage in parenthesis measured with no Signal.
2. Voltages without parenthesis measured with 3m V B & W or Colour-Signal.
3. All the voltages in each point are measured with VTVM.

WAVEFORM MEASUREMENT CONDITIONS:

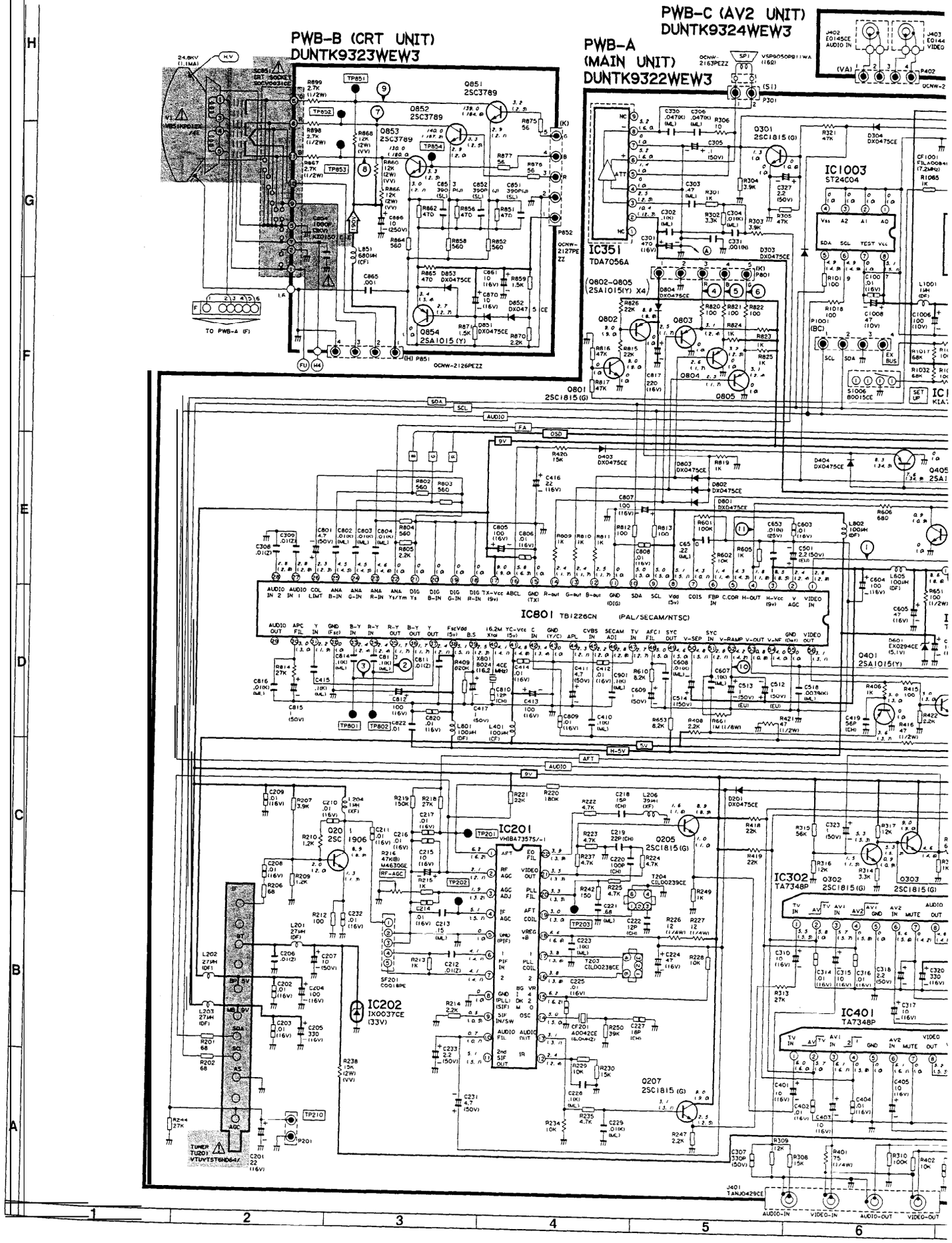
1. Colour bar generator signal of 1.5V peak to peak applied at Base of Video Buffer Amp. Q202.
2. Approximate/y 4.0 V AGC bias.

MODELCX-34G3 SCHEMATIC DIAGRAM

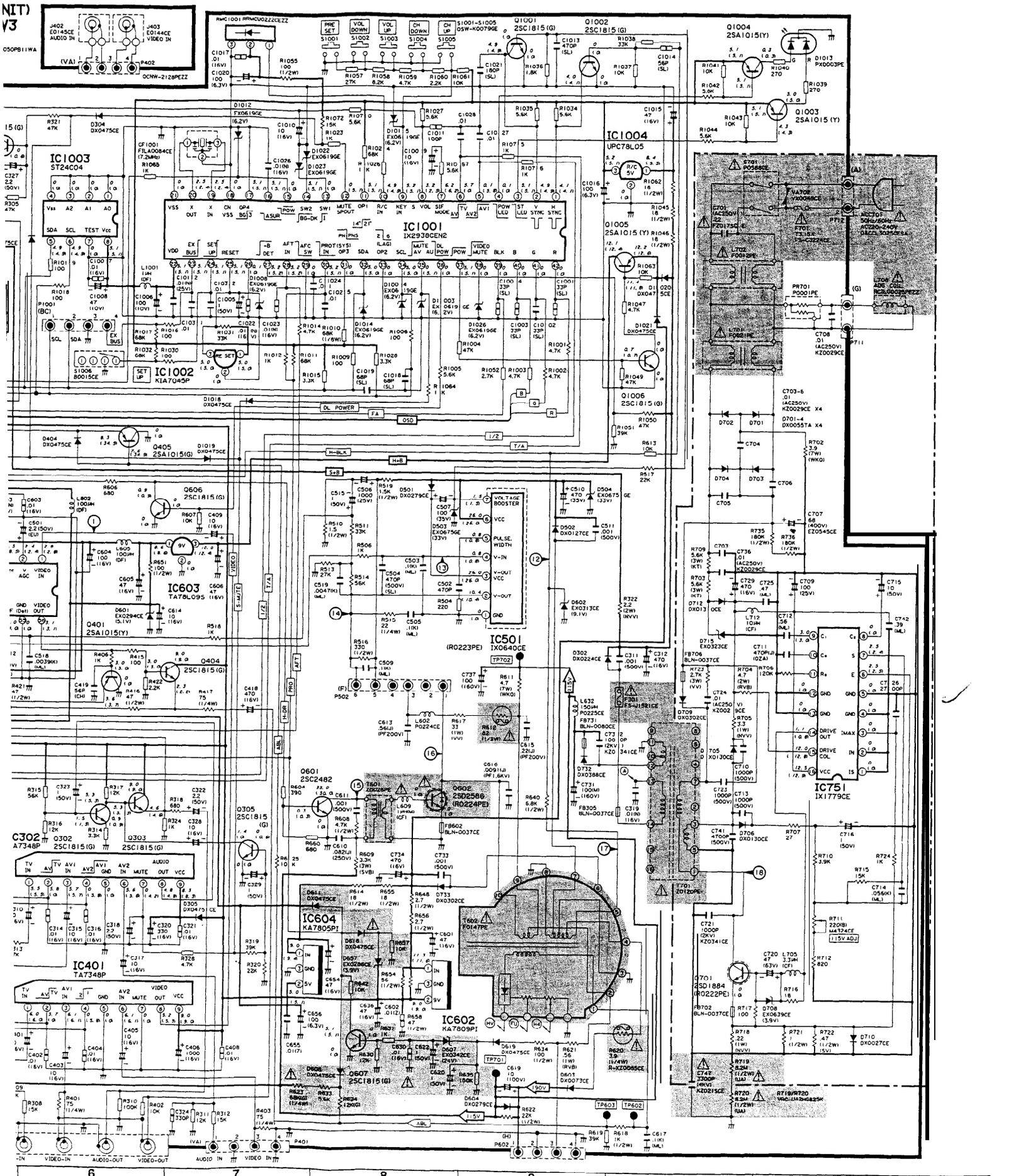



IC1001
IX2938CEN2
IC1002
KIA7045P
IC1004
UPC78L05
IC501
(R0223PE) IX0640CE
IC603
TA78L09S
IC604
KA7805PI
IC602
KA7809PI
IC401
TA7348P
IC751
IX1779CE
Q1001
2SC1815(G)
Q1002
2SC1815(G)
Q1004
2SA1015 (Y)
Q1003
2SA1015 (Y)
Q1005
2SA1015(Y)
Q1006
2SC1815(G)
Q0405
2SA1015 (G)
Q0606
2SC1815(G)
Q0401
2SA1015(Y)
Q0404
2SC1815(G)
Q0601
2SC2482
Q0305
2SC1815 (G)
Q0303
2SC1815(G)
Q0302
2SC1815(G)
Q0602
2SD1877
(R0224PE)
Q0607
2SC1815(G)
Q0701
2SD1884
(R0222PE)
AUDIO-OUT
VIDEO-OUT
AUDIO IN
VIDEO IN
6
7
8
9
10
11

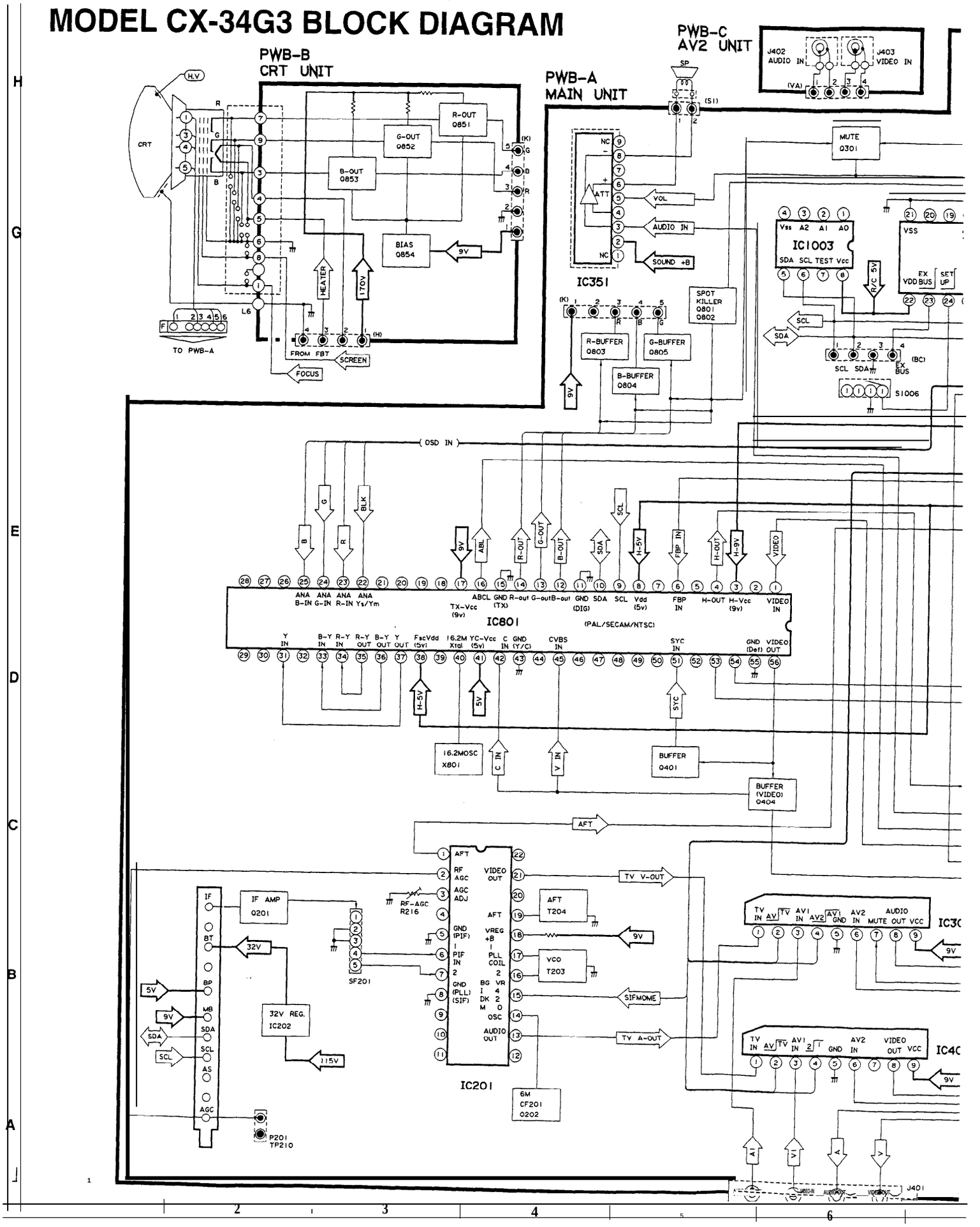
MODEL CX-51G3 SCHEMATIC DIAGRAM



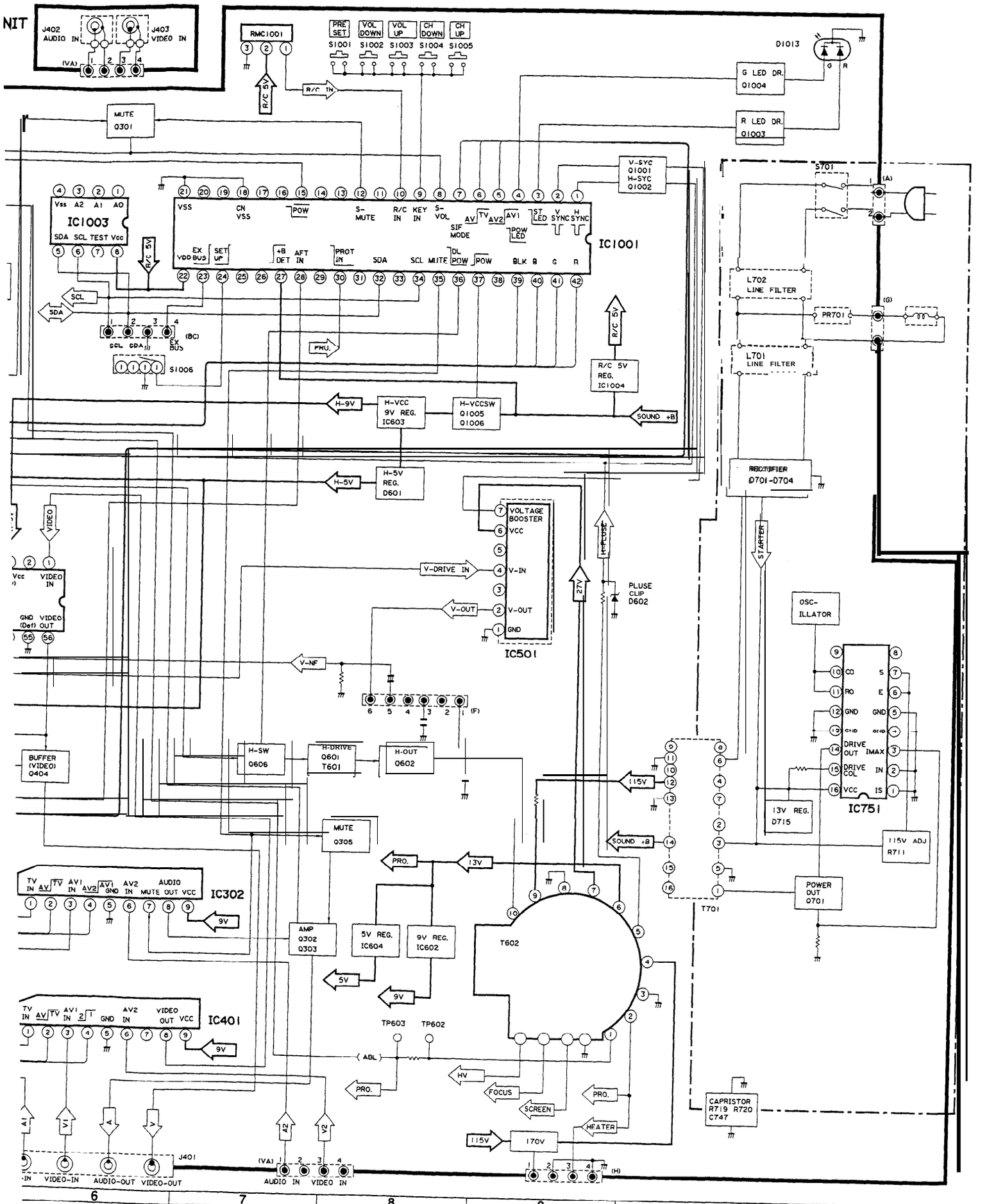
CX-34G3	CX-34G3
CX-51G3	CX-51G3



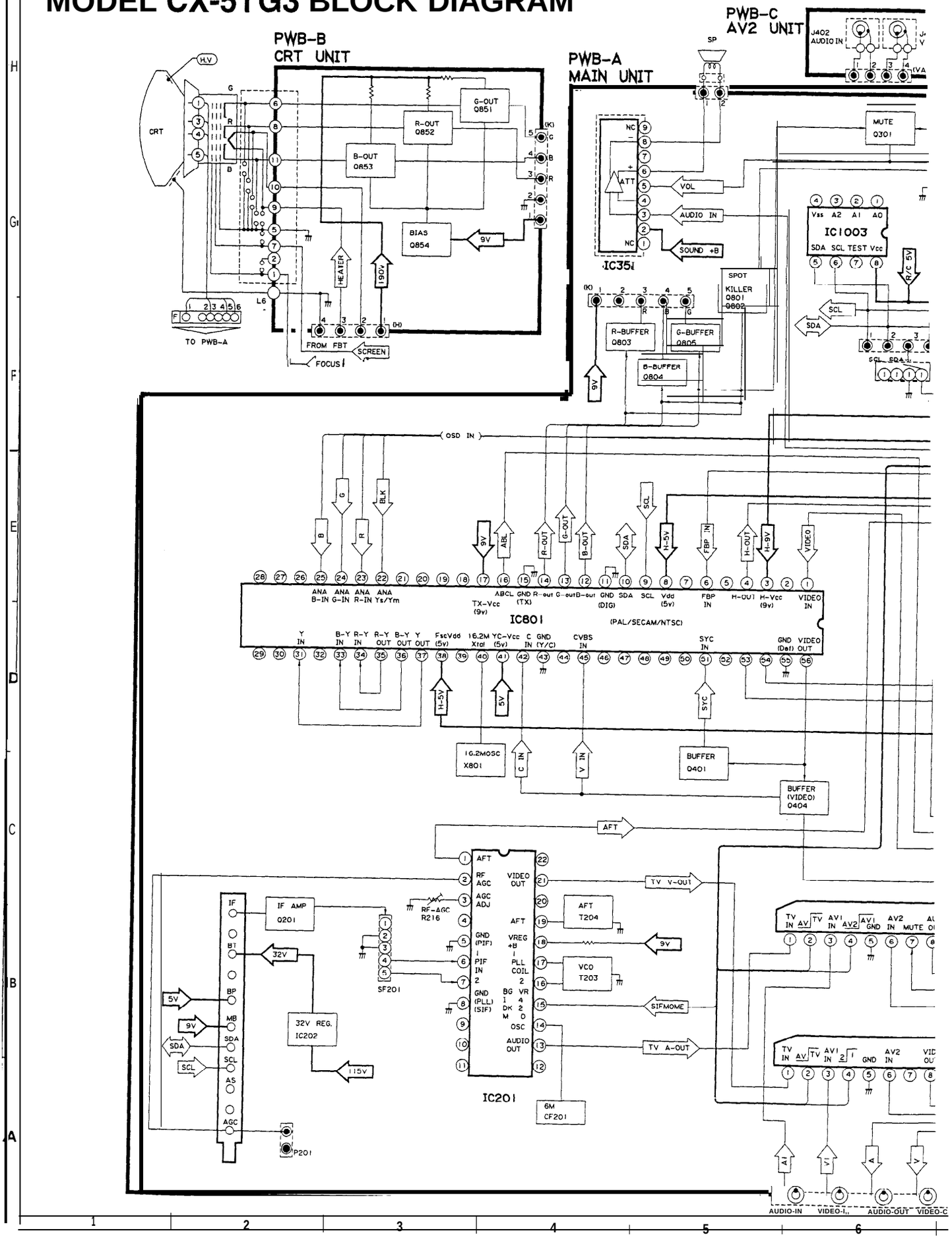
MODEL CX-34G3 BLOCK DIAGRAM

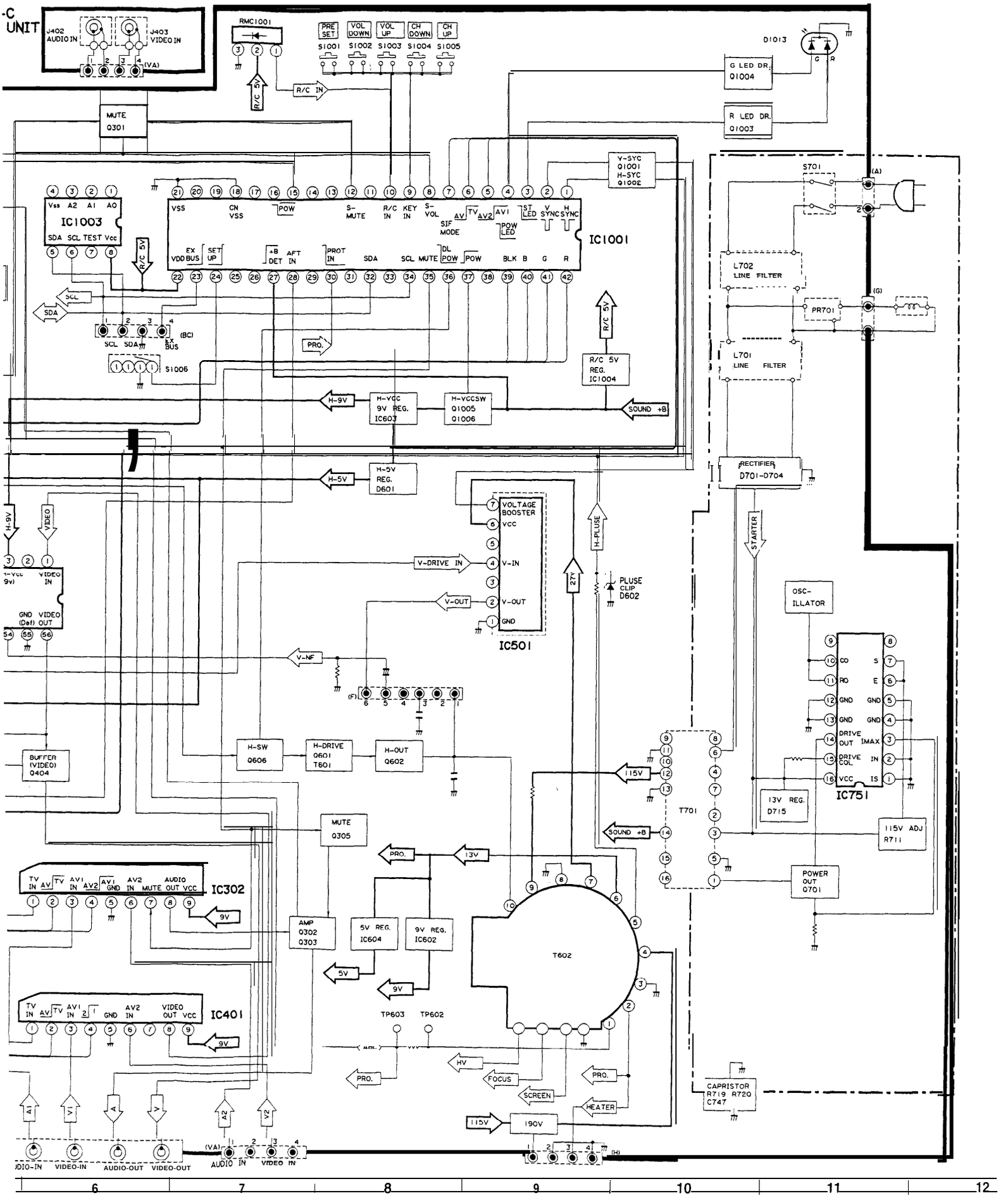


CX-34G3
CX-51G3



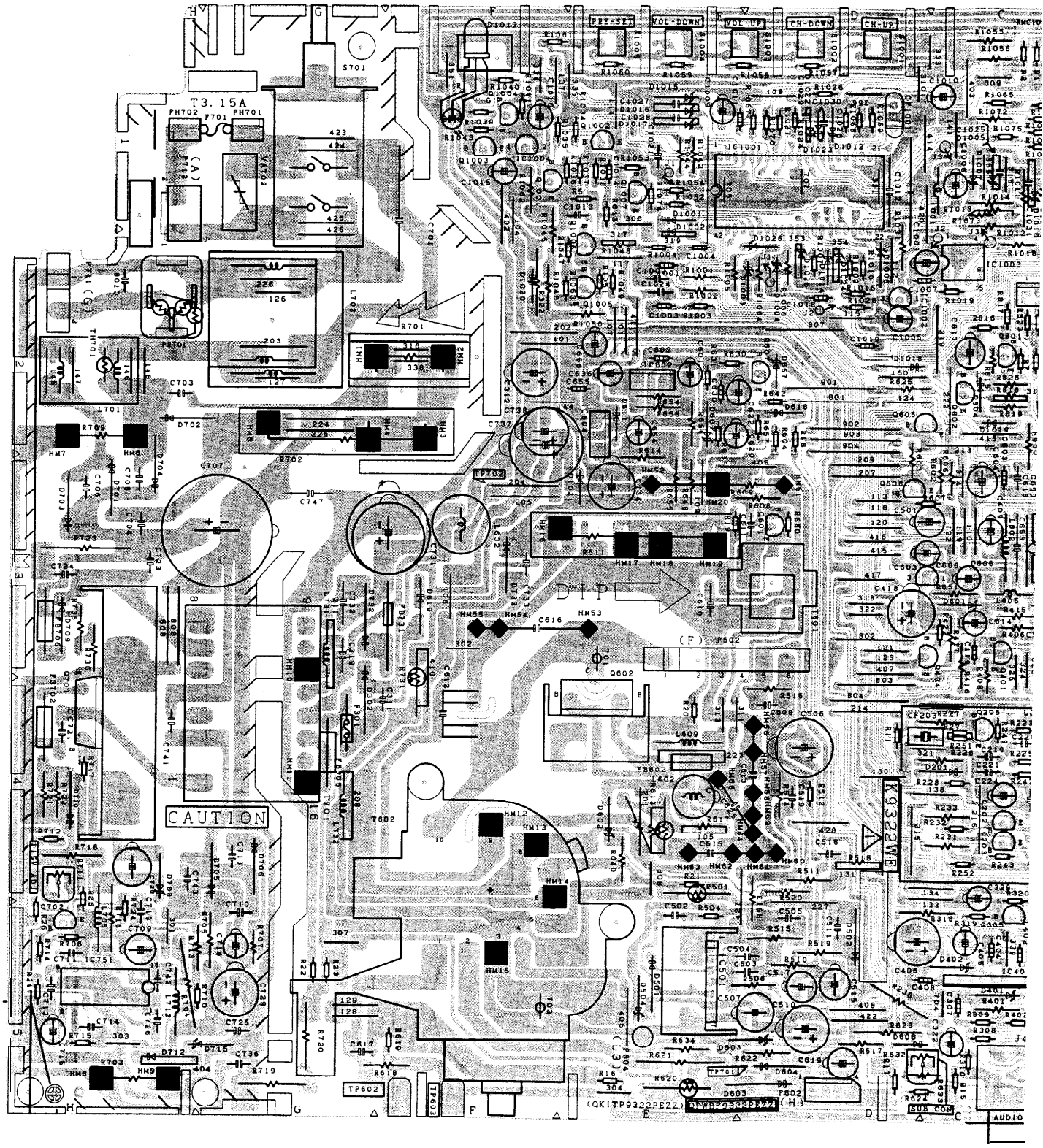
MODEL CX-51G3 BLOCK DIAGRAM



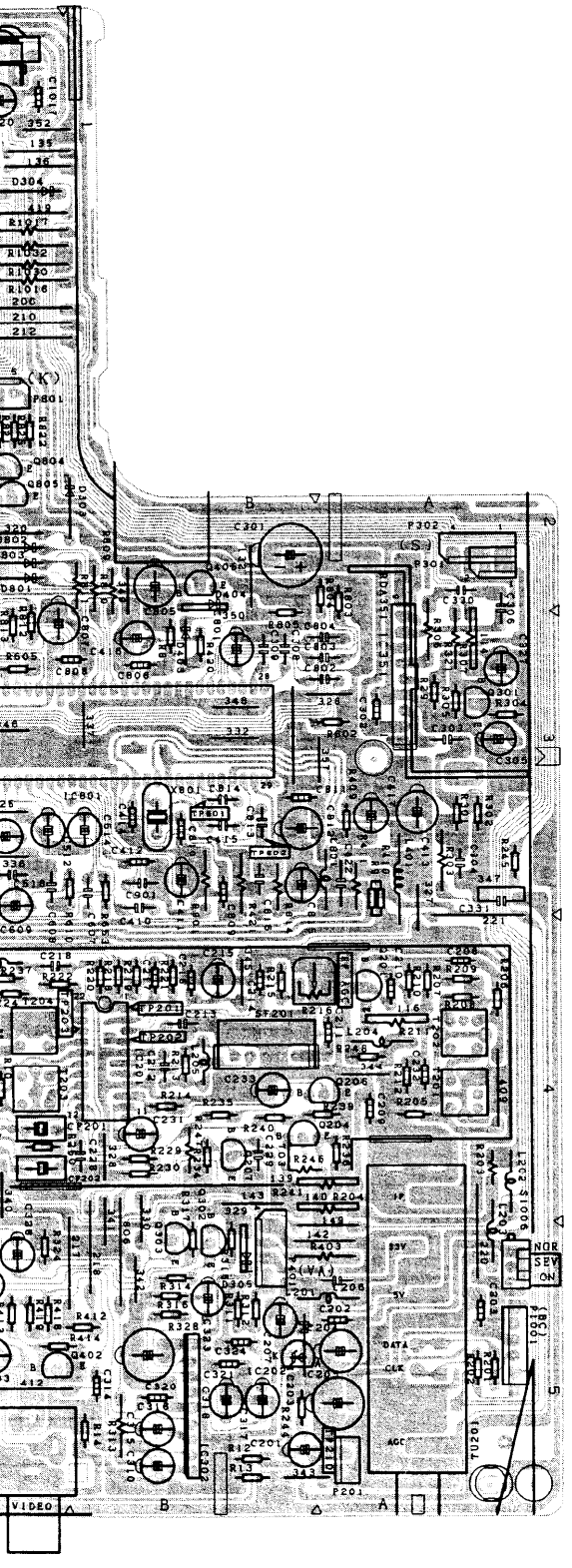

-C UNIT
J402 AUDIO IN
J403 VIDEO IN
RMC1001
PRE SET
VOL DOWN
VOL UP
CH DOWN
CH UP
S1001
S1002
S1003
S1004
S1005
R/C IN
R/C 5V
MUTE Q301
D1013
G LED DR. Q1004
R LED DR. Q1003
Y-SYC Q1001
H-SYC Q1002
IC1003
SDA SCL TEST Vcc
IC1001
VSS
CN VSS
POW
S-MUTE
R/C IN
KEY IN
S-VOL
SIF MODE
AV
TV
AV2
AV1
POW LED
ST LED
V SYNC
H SYNC
EX VDD BUS
SET UP
+B DET
AFT IN
PROT IN
SDA
SCL
MUTE
DL POW
POW
BLK
B
G
R
SCL
SDA
EX BUS
(BC)
S1006
PRO.
R/C 5V REG. IC1004
H-9V
H-VCC 9V REG. IC603
H-VCCSW Q1005 Q1006
SOUND +B
H-5V REG. D601
H-5V
S701
L702 LINE FILTER
PR701
L701 LINE FILTER
RECTIFIER D701-D704
STARTER
VOLTAGE BOOSTER
VCC
V-IN
V-OUT
GND
IC501
V-DRIVE IN
V-OUT
V-NF
H-PLUSE
27V
PLUSE CLIP D602
VIDEO
GND VIDEO (Def) OUT
VIDEO IN
BUFFER (VIDEO) Q404
H-SW Q606
H-DRIVE Q601 T601
H-OUT Q602
OSC-ILLATOR
IC751
DRIVE OUT
IMAX
DRIVE COL
IN
VCC
IS
CO
RO
S
E
GND
115V
T701
13V REG. D715
115V ADJ R711
SOUND +B
POWER OUT Q701
MUTE Q305
PRO.
13V
AMP Q302 Q303
5V REG. IC604
9V REG. IC602
5V
9V
T602
IC302
TV IN
AV
TV
AV1 IN
AV2
AV1 GND
AV2 IN
AUDIO MUTE
OUT VCC
IC401
VIDEO OUT
TP603
TP602
HV
FOCUS
SCREEN
HEATER
190V
CAPRISTOR R719 R720 C747
A1
V1
A
V
A2
V2
AUDIO-IN
VIDEO-IN
AUDIO-OUT
VIDEO-OUT
AUDIO IN
VIDEO IN

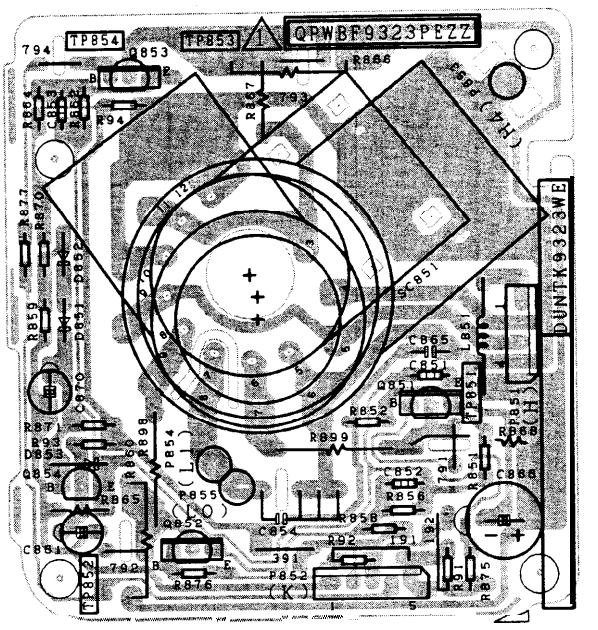
PRINTED WIRING BOARD ASSEMBLIES

(All the PWBs here are shown as viewed from their wiring sides)

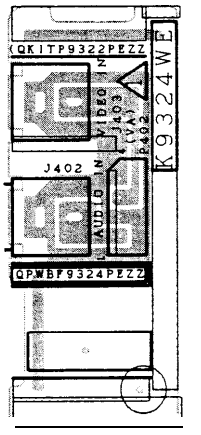


PWB-A: Main Unit





PWB-B: CRT Socket Unit



PWB-C: AV-2 Terminal Unit

PARTS LIST

PARTS REPLACEMENT

Replacement parts which have these special safety characteristics identified in this manual: electrical components having such features are identified by "⚠" in the Replacement Parts Lists.
The use of a substitute replacement part which does not have the same safety characteristics as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION
5. CODE
6. QUANTITY

MARK ★: SPARE PARTS-DELIVERY SECTION

Ref. No.	Part No.	★	Description	Code

PICTURE TUBE

MODEL CX-34G3

⚠ V1	VB370BVBK1S-S	R	CRT 37 cm (14")	BZ
⚠ L708	RCiLG0023PEZZ	R	Degaussing (ADG) Coil	AN
⚠ DY1	RCiLH0140PEN3	R	Deflection Yoke	BC
	LHLDW0003PEKZ	R	ADG Coil Holder, x4	AB
	PMAGF3006CEZZ	R	Purity Magnet	AK
	PSPAG0004PEZZ	R	Wedge (Gum), x3	AB
	MSPRT0001PEFJ	R	CRT Spring	AC
	QEARC1404PEZZ	R	Grounding Strap	AD

MODEL CX-51G3

⚠ V1	VB51KPD12X/4E	R	CRT 54 cm (21")	CG
⚠ L708	RCiLG0025PEZZ	R	Degaussing (ADG) Coil (with DY)	AW
	LHLDW0003PEKZ	R	ADG Coil Holder, x4	AB
	PMAGF3003CEZZ	R	Purity Magnet	AK
	PSPAG0003PEZZ	R	Wedge (Gum), x3	AD
	MSPRT0001PEFJ	R	CRT Spring	AC

PRINTED WIRING BOARD ASSEMBLIES (NOT REPLECEMENT ITEM)

MODEL CX-34G3

PWB-A	DUNTK9322WEV1	-	Main Unit	—
PWB-B	DUNTK9323WEV2	-	CRT Socket Unit	—
PWB-C	DUNTK9324WEV0	-	AV-2 Terminal Unit	—

MODEL CX-51G3

PWB-A	DUNTK9322WEV3	-	Main Unit	—
PWB-B	DUNTK9323WEV3	-	CRT Socket Unit	—
PWB-C	DUNTK9324WEV3	-	AV-2 Terminal Unit	—

Ref. No.	Part No.	★	Description	Code

PWB-A DUNTK9322WEW1/W3
MAIN UNIT

TUNER

*NOTE: THE PARTS HERE SHOWN ARE **SUPPLIED** AS AN ASSEMBLY BUT NOT INDEPENDENTLY.*

⚠ TU201	VTUVTST6HD64/	R	VHF Tuner	BF

INTEGRATED CIRCUITS

IC201	VHiBA7357S/-1	R	BA7357S	AR
IC202	RH-iX0037CEZZ	R	32V Regulator	AF
IC302	VHiTA7348P/-1	R	TA7348P	AK
IC351	VHiTDA7056A-1	R	TDA7056A	AP
IC401	VHiTA7348P/-1	R	TA7348P	AK
IC501	RH-iX0640CEZZ	R	LA7830	AK
IC602	VHiKA7809Pi-1	R	KiA7809Pi	AE
IC603	VHiTA78L09S-1	R	H-Vcc, 9V Regulator	AC
IC604	VHiKA7805Pi-1	R	5V Regulator	AE
IC751	RH-iX1779CEZZ	R	TEA2261	AR
IC801	VHiTB1226CN-1	R	TB1226CN	BC
IC1001	RH-iX2938CEN2	R	M37221M4-109SP	AW
IC1002	VHiKiA7045P-1	R	KiA7045P	AD
IC1003	VHiST24C04/-1	R	ST24C04CB6	AQ
IC1004	VHiUPC78L05-4	R	UPC78L05J	AD

TRANSISTORS

Q201	VS2SC1906//1E	R	IF Amp.	AC
Q202	VS2SC1815GW-1	R	6MHz (CX-34G3)	AB
Q205	VS2SC1815GW-1	R	2SC1815(G)	AB
Q207	VS2SC1815GW-1	R	2SC1815(G)	AB
Q301	VS2SC1815GW-1	R	Mute	AB
Q302	VS2SC1815GW-1	R	Amplifier	AB
Q303	VS2SC1815GW-1	R	Amplifier	AB
Q305	VS2SC1815GW-1	R	Mute	AB
Q401	VS2SA1015Y/1E	R	Buffer	AC
Q404	VS2SC1815GW-1	R	Video Buffer	AB
Q405	VS2SA1015G/1 E	R	2SA1015(G)	AC
Q601	VS2SC2482//-1	R	Horizontal Drive	AD
⚠ Q602	VS2SD1877//1E	R	Horizontal Output (CX-34G3)	AL
Q606	VS2SC1815GW-1	R	Horizontal Switch	AB
⚠ Q607	VS2SC1815GW-1	R	2SC1815(G)	AB
Q701	VS2SD1884//-1	R	Power Output	AN
Q801	VS2SC1815GW-1	R	Spot Killer	AB
Q802	VS2SA1015Y/1 E	R	Spot Killer	AC
Q803	VS2SA1015Y/1 E	R	R-Buffer	AC
Q804	VS2SA1015Y/1 E	R	B-Buffer	AC
Q805	VS2SA1015Y/1 E	R	G-Buffer	AC
Q1001	VS2SC1815GW-1	R	V-Sync.	AB
Q1002	VS2SC1815GW-1	R	H-Sync.	AB
Q1003	VS2SA1015Y/1 E	R	R LED Driver	AC
Q1004	VS2SA1015Y/1 E	R	G LED Driver	AC
Q1005	VS2SA1015Y/1 E	R	H-Vcc SW	AC
Q1006	VS2SC1815GW-1	R	H-Vcc SW	AB

DIODES

D201	RH-DX0475CEZZ	R	Diode	AB

PWB-A DUNTK9322WEW1/W3
MAIN UNIT(Continued)

Ref. No.	Part No.	★	Description	Code
D302	RH-DX0224CEZZ	R	Diode	AB
D303	RH-DX0475CEZZ	R	Diode	AB
D304	RH-DX0475CEZZ	R	Diode	AB
D305	RH-DX0475CEZZ	R	Diode	AB
D403	RH-DX0475CEZZ	R	Diode	AB
D404	RH-DX0475CEZZ	R	Diode	AB
D501	RH-DX0279CEZZ	R	Diode	AB
D502	RH-DX0127CEZZ	R	Diode	AC
D503	RH-EX0675GEZZ	R	Zener Diode 33V	AB
D504	RH-EX0675GEZZ	R	Zener Diode 33V	AB
D601	RH-EX0294CEZZ	R	Zener Diode 5.1V	AA
D602	RH-EX0313CEZZ	R	Zener Diode 9.1 V	AA
D603	RH-DX0073CEZZ	R	Diode	AD
D604	RH-DX0279CEZZ	R	Diode	AB
⚠ D606	RH-DX0475CEZZ	R	Diode	AB
⚠ D607	RH-EX0692GEZZ	R	Zener Diode 27V (CX-34G3)	AB
⚠ D607	RH-EX0342CEZZ	R	Zener Diode 24V (CX-51G3)	AB
0611	RH-DX0475CEZZ	R	Diode	AB
⚠ D618	RH-DX0475CEZZ	R	Diode	AB
D619	RH-DX0475CEZZ	R	Diode	AB
⚠ D657	RH-EX0286CEZZ	R	Zener Diode 3.9V	AA
0701	RH-DX0055TAZZ	R	Diode	AD
D702	RH-DX0055TAZZ	R	Diode	AD
D703	RH-DX0055TAZZ	R	Diode	AD
D704	RH-DX0055TAZZ	R	Diode	AD
0705	RH-DX0130CEZZ	R	Diode	AE
D706	RH-DX0130CEZZ	R	Diode	AE
D708	RH-EX0639CEZZ	R	Zener Diode 3.9V	AB
D709	RH-DX0302CEZZ	R	Diode	AC
D710	RH-DX0027CEZZ	R	Diode	AE
D712	RH-DX0130CEZZ	R	Diode	AE
D715	RH-EX0323CEZZ	R	Zener Diode 13V	AB
D732	RH-DX0388CEZZ	R	Diode	AE
D733	RH-DX0302CEZZ	R	Diode	AC
D801	RH-DX0475CEZZ	R	Diode	AB
0802	RH-DX0475CEZZ	R	Diode	AB
0803	RH-DX0475CEZZ	R	Diode	AB
D804	RH-DX0475CEZZ	R	Diode	AB
D1003	RH-EX061 9GEZZ	R	Zener Diode 6.2V	AA
D1004	RH-EX061 9GEZZ	R	Zener Diode 6.2V	AA
D1008	RH-EX061 9GEZZ	R	Zener Diode 6.2V	AA
D1012	RH-EX061 9GEZZ	R	Zener Diode 6.2V	AA
D1013	RH-PX0003PEZZ	R	LED, Red/Green	AF
D1014	RH-EX0619GEZZ	R	Zener Diode	AA
D1015	RH-EX0619GEZZ	R	Zener Diode	AA
D1018	RH-DX0475CEZZ	R	Diode	AB
D1019	RH-DX0475CEZZ	R	Diode	AB
D1020	RH-DX0475CEZZ	R	Diode	AB
D1021	RH-DX0475CEZZ	R	Diode	AB
D1022	RH-EX061 9GEZZ	R	Zener Diode (CX-51G3)	AA
D1023	RH-EX061 9GEZZ	R	Zener Diode (CX-51 G3)	AA
D1026	RH-EX061 9GEZZ	R	Zener Diode	AA
⚠ VA702	RH-VX0048CEZZ	R	Varistor	AE

PACKAGED CIRCUITS

PR701	RMPTP0028CEZZ	R	Packaged Circuit (CX-34G3)	AG
PR701	RMPTP0001 PEZZ	R	Packaged Circuit (CX-51 G3)	AN
X801	RCRSB0244CEZZ	R	Crystal, 16.2MHz	AH

COILS AND TRANSFORMERS

CF201	RFiLA0042CEZZ	R	Filter	AD
CF1001	RFiLA0084CEZZ	R	Filter	AE
L201	VP-DF270K0000	R	Peaking 27µH	AB
L202	VP-DF270K0000	R	Peaking 27µH	AB
L203	VP-DF270K0000	R	Peaking 27µH	AB
L204	VP-XF1R0K0000	R	Peaking 1 µH	AB
L206	VP-XF390K0000	R	Peaking 39µH	AB
L401	VP-CF101K0000	R	Peaking 100µH	AB
L602	RCiLP0224CEZZ	R	Coil	AE
L605	VP-DF100K0000	R	Peaking 10µH (CX-34G3)	AB
L605	VP-DF101K0000	R	Peaking 100µH (CX-51G3)	AB
L609	VP-CF1R5M0000	R	Peaking 1.5µH (CX-34G3)	AB
L609	VP-CF1R0M0000	R	Peaking 1µH (CX-51G3)	AB
L632	RCiLP0225CEZZ	R	Coil	AF
⚠ L701	RCiLF0021PEZZ	R	Coil	AK
⚠ L702	RCiLF0012PEZZ	R	Coil	AN
L705	VP-CF3R3K0000	R	Peaking 3.3µH	AB
L712	VP-CF330K0000	R	Peaking 33µH (CX-34G3)	AB
L712	VP-CF100K0000	R	Peaking 10µH (CX-51 G3)	AB
L801	VP-DF101K0000	R	Peaking 100µH	AB
L802	VP-DF101K0000	R	Peaking 100µH	AB
L1001	VP-DF1R0K0000	R	Peaking 1 µH	AB
SF201	RFiLC0018PEZZ	R	Surface Acoustic Wave Filter	AL
T203	RCiLD0238CEZZ	R	Detection Coil	AE
T204	RCiLD0239CEZZ	R	Detection Coil	AE
⚠ T601	RTRNZ0179CEZZ	R	Transformer (CX-34G3)	AE
⚠ T601	RTRNZ0026PEZZ	R	Transformer (CX-51 G3)	AH
⚠ T602	RTRNF0141PEZZ	R	H-Volt Transformer (CX-34G3)	BC
⚠ T602	RTRNF0147PEZZ	R	H-Volt Transformer (CX-51G3)	BC
⚠ T701	RTRNZ011 9PEZZ	R	Transformer (CX-34G3)	AS
⚠ T701	RTRNZ0120PEZZ	R	Transformer (CX-51 G3)	BB

CONTROLS

R216	RVR-M4630GEZZ	R	47k(B) RF-AGC	AB
R711	RVR-M4324CEZZ	R	220(B) 115V Adj.	AC

CAPACITORS

C201	VCEAGA1CW226M	R	22	16V	Electrolytic	AB
C202	VCKYMN1CY103N	R	0.01	16V	Ceramic	AA
C203	VCKYMN1CY103N	R	0.01	16V	Ceramic	AA
C204	VCEAGA1 CW107M	R	100	16V	Electrolytic	AB
C205	VCEAGA1CW337M	R	330	16V	Electrolytic	AC
C206	VCKYPA1 HF103Z	R	0.01	50V	Ceramic	AA
C207	VCEAGA1HW106M	R	10	50V	Electrolytic	AC
C208	VCKYMN1CY103N	R	0.01	16V	Ceramic	AA
C209	VCKYMN1CY103N	R	0.01	16V	Ceramic	AA
C210	VCKYMN1CY103N	R	0.01	16V	Ceramic	AA
C211	VCKYMN1CY103N	R	0.01	16V	Ceramic	AA

PWB-A DUNTK9322WEW1/W3
MAIN UNIT(Continued)

Ref. No.	Part No.	★	Description	Code
C212	VCKYPA1 HF103Z	R	0.01 50V Ceramic	AA
C213	VCFYSA1HB154J	R	0.15 50V Mylar	AB
C214	VCKYMN1CY103N	R	0.01 16V Ceramic	AA
C215	VCEAGA1CW106M	R	10 16V Electrolytic	AA
C216	VCKYMN1CY103N	R	0.01 16V Ceramic	AA
C217	VCKYMN1CY103N	R	0.01 16V Ceramic	AA
C218	VCCCPA1HH150J	R	15p 50V Ceramic	AA
C219	VCCCPA1HH220J	R	22p 50V Ceramic	AA
C220	VCCCPA1HH101J	R	100p 50V Ceramic	AA
C221	VCFYSA1 HB684J	R	0.68 50V Mylar	AC
C222	VCCCPA1HH120J	R	12p 50V Ceramic	AA
C223	RC-QZA104TAYK	R	0.1 50V Mylar	AB
C224	VCEAGA1CW476M	R	47 16V Electrolytic	AB
C225	VCKYMN1CY103N	R	0.01 16V Ceramic	AA
C227	VCCCPA1HH180J	R	18p 50V Ceramic	AA
C228	RC-QZA104TAYK	R	0.1 50V Mylar	AB
C229	RC-QZA103TAYK	R	0.01 50V Mylar	AA
C231	VCEAGA1HW475M	R	4.7 50V Electrolytic	AB
C232	VCKYMN1 CY103N	R	0.01 16V Ceramic	AA
C233	VCEAGA1HW225M	R	2.2 50V Electrolytic	AB
C301	VCEAGA1CW477M	R	470 16V Electrolytic	AC
C302	RC-QZA104TAYK	R	0.1 50V Mylar	AB
C303	VCFYSA1 HB474J	R	0.47 50V Mylar	AC
C304	RC-QZA103TAYK	R	0.01 50V Mylar	AA
C305	VCEAGA1 HW104M	R	0.1 50V Electrolytic	AA
C306	RC-QZA473TAYK	R	0.047 50V Mylar	AB
C307	VCKYPA1HB331K	R	330p 50V Ceramic	AA
C308	VCKYPA1 HF103Z	R	0.01 50V Ceramic	AA
C309	VCKYPA1 HF103Z	R	0.01 50V Ceramic	AA
C310	VCEAGA1CW106M	R	10 16V Electrolytic	AA
C311	VCKYPA2HB102K	R	1000p 500V Ceramic	AA
C312	VCEAGA1CW477M	R	470 16V Electrolytic	AC
C314	VCKYMN1 CY103N	R	0.01 16V Ceramic	AA
C315	VCEAGA1CW106M	R	10 16V Electrolytic	AA
C316	VCKYMN1 CY 103N	R	0.01 16V Ceramic	AA
C317	VCEAGA1CW106M	R	10 16V Electrolytic	AA
C318	VCEAGA1HW225M	R	2.2 50V Electrolytic	AB
C319	VCKYD41 CY103N	R	0.01 16V Ceramic	AA
C320	VCEAGA1CW337M	R	330 16V Electrolytic	AC
C321	VCKYMN1 CY103N	R	0.01 16V Ceramic	AA
C322	VCEAGA1HW225M	R	2.2 50V Electrolytic	AB
C323	VCEAGA1HW105M	R	1 50V Electrolytic	AC
C324	VCKYMN1 HB331 K	R	330p 50V Ceramic	AA
C327	VCEAGA1HW225M	R	2.2 50V Electrolytic	AB
C328	VCEAGA1CW106M	R	10 16V Electrolytic	AA
C329	VCEAGA1HW105M	R	1 50V Electrolytic	AC
C330	RC-QZA473TAYK	R	0.047 50V Mylar	AB
C331	VCKYD41 HB102K	R	1000p 50V Ceramic	AA
C401	VCEAGA1CW106M	R	10 16V Electrolytic	AA
C402	VCKYMN1 CY103N	R	0.01 16V Ceramic	AA
C403	VCEAGA1CW106M	R	10 16V Electrolytic	AA
C404	VCKYMN1 CY103N	R	0.01 16V Ceramic	AA
C405	VCEAGA1CW106M	R	10 16V Electrolytic	AA
C406	VCEAGA1 CW108M	R	1000 16V Electrolytic	AD
C408	VCKYMN1CY103N	R	0.01 16V Ceramic	AA
C409	VCEAGA1CW106M	R	10 16V Electrolytic	AA
C410	RC-QZA104TAYK	R	0.1 50V Mylar	AB
C411	VCEAGA1HW475M	R	4.7 50V Electrolytic	AB
C412	VCKYMN1CY103N	R	0.01 16V Ceramic	AA
C413	VCEAGA1CW107M	R	100 16V Electrolytic	AB
C414	VCKYMN1 CY 103N	R	0.01 16V Ceramic	AA
C415	RC-QZA104TAYK	R	0.1 50V Mylar	AB
C416	VCEAGA1CW226M	R	22 16V Electrolytic	AB
C417	VCEAGA1HW105M	R	1 50V Electrolytic	AC
C418	VCEAGA1CW477M	R	470 16V Electrolytic	AC
C419	VCCCPA1HH560J	R	56p 50V Ceramic	AA
C501	VCEACA1HC105M	R	1 50V Electrolytic (CX-34G3)	AC
C501	VCEACA1HC225M	R	2.2 50V Electrolytic (CX-51G3)	AC
C502	VCKYPA1HB471 K	R	470p 50V Ceramic	AA
C503	RC-QZA104TAYK	R	0.1 50V Mylar	AB
C504	VCCSPA2HL471K	R	470p 500V Ceramic	AB
C505	RC-QZA104TAYK	R	0.1 50V Mylar	AB
C506	VCEAGA1 EW108M	R	1000 25V Electrolytic	AD
C507	VCEAGA1VW107M	R	100 35V Electrolytic	AC
C509	RC-QZA104TAYK	R	0.1 50V Mylar	AB
C510	VCEAGA1VW477M	R	470 35V Electrolytic	AD
C511	VCKYPA2HB102K	R	1000p 500V Ceramic	AA
C512	VCFYSA1HB824J	R	0.82 50V Mylar (CX-34G3)	AC
C512	VCEACA1 HC105M	R	1 50V Electrolytic (CX-51G3)	AC
C513	VCFYSA1HB824J	R	0.82 50V Mylar (CX-34G3)	AC
C513	VCEACA1 HC105M	R	1 50V Electrolytic (CX-51G3)	AC
C514	VCEAGA1HW105M	R	1 50V Electrolytic	AC
C515	VCEACA1 HC105M	R	1 50V Electrolytic	AC
C518	VCQYTA1HM392K	R	3900p 50V Mylar	AB
C519	RC-QZA472TAYK	R	0.0047 50V Mylar	AA
C601	VCEAGA1CW476M	R	47 16V Electrolytic	AB
C602	VCKYPA1 HF103Z	R	0.01 50V Ceramic	AA
C603	VCKYMN1 CY103N	R	0.01 16V Ceramic	AA
C604	VCEAGA1CW107M	R	100 16V Electrolytic	AB
C605	VCEAGA1CW476M	R	47 16V Electrolytic	AB
C606	VCEAGA1CW476M	R	47 16V Electrolytic	AB
C607	RC-QZA104TAYK	R	0.1 50V Mylar	AB
C608	RC-QZA103TAYK	R	0.1 50V Mylar	AA
C609	VCEAGA1HW105M	R	1 50V Electrolytic	AC
C610	VCFYSB2EB823J	R	0.082 250V Mylar	AD
C611	VCKYPA2HB102K	R	1000p 500V Ceramic	AA
C613	VCFPPD2DB474J	R	0.47 200V M-Poly. (CX-34G3)	AE
C613	VCFPPD2DB564J	R	0.56 200V M-Poly. (CX-51G3)	AF
C614	VCEAGA1CW1 06M	R	10 16V Electrolytic	AA
C615	VCQPSD2DA224J	R	0.22 200V Mylar	AD
C616	VCFPPD3CA682H	R	6800p 1.6kV M-Poly. (CX-34G3)	AE

PWB-A DUNTK9322WEW1/W3
MAIN UNIT(Continued)

Ref. No.	Part No.	★	Description	Code
C616	VCFPPD3CA912H	R	9 1 00p 1.6kV M-Poly. (CX-51G3)	AE
C617	RC-QZA104TAYK	R	0.1 50V Mylar	AB
C619	VCEAGA2AW106M	R	1 0 1 00V Electrolytic	AC
⚠ C620	VCEAGA1HW105M	R	1 50V Electrolytic	AC
⚠ C622	VCEAGA1HW105M	R	1 50V Electrolytic	AC
⚠ C630	VCKYMN1CY103N	R	0.01 16V Ceramic	AA
C636	VCEAGA1CW476M	R	4 7 16V Electrolytic	AB
C650	VCFYSA1HB224J	R	0.22 50V Mylar	AB
C653	VCKYAT1 EX103N	R	0 . 0 1 25V Ceramic	AA
C654	VCEAGA1CW476M	R	4 7 16V Electrolytic	AB
C655	VCKYPA1 HF103Z	R	0 . 0 1 50V Ceramic	AA
C656	VCEAGA0JW107M	R	1 0 0 6.3V Electrolytic	AB
⚠ C701	RC-FZ017SCEZZ	R	0.22 AC250V Specil	AD
C703	RC-KZ0029CEZZ	R	0.01 AC250V Ceramic	AC
C704	RC-KZ0029CEZZ	R	0.01 AC250V Ceramic	AC
C705	RC-KZ0029CEZZ	R	0.01 AC250V Ceramic	AC
C706	RC-KZ0029CEZZ	R	0.01 AC250V Ceramic	AC
C707	RC-EZ0545CEZZ	R	6 8 400V Electrolytic	AQ
C708	RC-KZ0029CEZZ	R	0.01 AC250V Ceramic	AC
C709	VCEAGA1EW107M	R	1 0 0 25V Electrolytic	AD
C710	VCKYPA2HB102K	R	1000p 500V Ceramic	AA
C711	RC-QZA471TAYJ	R	470p 50V Mylar	AB
C712	VCFYSA1HB474J	R	0.47 50V (CX-34G3)	AC
C712	VCFYSA1 HB564J	R	0 . 5 6 50V (CX-51 G3)	AC
C713	VCKYPA2HB102K	R	1000p 500V Ceramic	AA
C714	RC-QZA563TAYK	R	0.056 50V Mylar	AB
C715	VCEAGA1HW106M	R	1 0 50V Electrolytic	AC
C716	VCEAGA1HW105M	R	1 50V Electrolytic	AC
C720	VCEAGA1JW476M	R	4 7 63V Electrolytic	AB
C721	RC-KZ0341CEZZ	R	1000p 2kV Ceramic	AD
C723	VCKYPA2HB102K	R	1000p 500V Ceramic	AA
C724	RC-KZ0029CEZZ	R	0.01 AC250V Ceramic	AC
C725	VCFYSA1HB474J	R	0.47 50V Mylar	AC
C726	VCKYPA1 HB392K	R	3900p 50V Ceramic (CX-34G3)	AB
C726	VCKYPA1HB272K	R	2700p 50V Ceramic (CX-51G3)	AA
C729	VCEAGA1CW477M	R	4 7 0 16V Electrolytic	AC
C731	VCEAGH2CW107M	R	1 0 0 160V Electrolytic	AE
C732	RC-KZ0341CEZZ	R	1000p 2kV Ceramic	AD
C733	VCKYPA2HB102K	R	1000p 500V Ceramic	AA
C734	VCEAGA1CW477M	R	4 7 0 16V Electrolytic	AC
C736	RC-KZ0029CEZZ	R	0.01 AC250V Ceramic	AC
C737	VCEAGH2CW107M	R	1 0 0 160V Electrolytic	AE
C741	VCKYPA2HB472K	R	4700p 500V Ceramic	AB
C742	VCFYSA1 HB394J	R	0 . 3 9 50V (CX-51 G3)	AC
C742	VCFYSA1HB474J	R	0 . 4 7 50V (CX-34G3)	AC
⚠ C747	RC-KZ021SCEZZ	R	3300p 4kV Ceramic	AE
C750	VCKYPA1 HF103Z	R	0 . 0 1 50V Ceramic	AA
C801	VCEAGA1HW475M	R	4 . 7 50V Electrolytic	AB
C802	RC-QZA103TAYK	R	0.01 50V Mylar	AA
C803	RC-QZA103TAYK	R	0.01 50V Mylar	AA
C804	RC-QZA103TAYK	R	0.01 50V Mylar	AA
C805	VCEAGA1 CW107M	R	1 0 0 16V Electrolytic	AB
C806	VCKYMN1 CY103N	R	0 . 0 1 16V Ceramic	AA
C807	VCEAGA1 CW107M	R	1 0 0 16V Electrolytic	AB
C808	VCKYMN1CY103N	R	0 . 0 1 16V Ceramic	AA
C809	VCKYMN1CY103N	R	0 . 0 1 16V Ceramic	AA
C810	VCCCMN1HH120J	R	12p 50V Ceramic	AA
C811	VCKYPA1HF103Z	R	0 . 0 1 50V Ceramic	AA
C812	VCEAGA1CW107M	R	1 0 0 16V Electrolytic	AB
C813	RC-QZA104TAYK	R	0.1 50V Mylar	AB
C814	RC-QZA104TAYK	R	0.1 50V Mylar	AB
C815	VCEAGA1HW105M	R	1 50V Electrolytic	AC
C816	RC-QZA103TAYK	R	0.01 50V Mylar	AA
C817	VCEAGA1CW227M	R	2 2 0 16V Electrolytic	AC
C820	VCKYMN1CY103N	R	0 . 0 1 16V Ceramic	AA
C822	VCKYD41CY103N	R	0 . 0 1 16V Ceramic	AA
C901	RC-QZA104TAYK	R	0.1 50V Mylar	AB
C1001	VCCSMN1HL330J	R	33p 50V Ceramic	AA
C1002	VCCSPA1 HL330J	R	33p 50V Ceramic	AA
C1003	VCCSMN1HL330J	R	33p 50V Ceramic	AA
C1004	VCCSMN1 HL330J	R	33p 50V Ceramic	AA
C1005	VCEAGA1 HW105M	R	1 50V Electrolytic	AC
C1006	VCEAGA1AW107M	R	1 0 0 1 0V Electrolytic	AB
C1007	VCKYMN1CY103N	R	0 . 0 1 16V Ceramic	AA
C1008	VCEAGA1AW476M	R	4 7 1 0V Electrolytic	AA
C1009	VCEAGA1CW106M	R	1 0 16V Electrolytic	AA
C1010	VCEAGA1CW106M	R	1 0 16V Electrolytic	AA
C1011	VCKYMN1HB101K	R	100p 50V Ceramic	AA
C1012	VCKYAT1 EX103N	R	0 . 0 1 25V Ceramic	AA
C1013	VCCSPA1HL471J	R	470p 50V Ceramic	AA
C1014	VCCSMN1 HL560J	R	56p 50V Ceramic	AA
C101 5	VCEAGA1CW476M	R	4 7 16V Electrolytic	AB
C1016	VCEAGA0JW107M	R	1 0 0 6.3V Electrolytic	AB
C1017	VCKYMN1CY103N	R	0 . 0 1 16V Ceramic	AA
Cl 018	VCCSPA1HL680J	R	68p 50V Ceramic	AA
Cl 019	VCCSPA1 HL680J	R	68p 50V Ceramic	AA
C1020	VCEAGA0JW107M	R	1 0 0 6.3V Electrolytic	AB
C1021	VCCSPA1HL181J	R	180p 50V Ceramic	AA
C1022	VCKYMN1CY103N	R	0 . 0 1 16V Ceramic	AA
C1023	VCKYMN1CY103N	R	0 . 0 1 16V Ceramic	AA
C1024	VCKYD41CY103N	R	0 . 0 1 16V Ceramic	AA
C1025	VCKYD41CY103N	R	0 . 0 1 16V Ceramic	AA
C1026	VCKYD41CY103N	R	0 . 0 1 16V Ceramic	AA
C1027	VCKYD41 CY103N	R	0 . 0 1 16V Ceramic	AA
C1028	VCKYD41CY103N	R	0 . 0 1 16V Ceramic	AA
C1029	VCKYD41CY103N	R	0 . 0 1 16V Ceramic (CX-34G3)	AA
C1031	VCKYD41CY103N	R	0 . 0 1 16V Ceramic	AA
C1032	VCKYD41CY103N	R	0 . 0 1 16V Ceramic	AA

RESISTORS

R201	VRD-MN2BE680J	R	6 8 1/8W Carbon	AA
R202	VRD-MN2BE680J	R	6 8 1/8W Carbon	AA
R206	VRD-MN2BE680J	R	6 8 1/8W Carbon	AA
R207	VRD-MN2BE392J	R	3.9k 1/8W Carbon	AA
R209	VRD-MN2BE122J	R	1.2k 1/8W Carbon	AA

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MAIN UNIT(Continued)

Ref. No.	Part No.	★	Description	Code
R210	VRD-RA2BE122J		R 1.2k 1/8W Carbon	AA
R212	VRD-MN2BE101J		R 100 1/8W Carbon	AA
R213	VRD-MN2BE102J		R 1k 1/8W Carbon	AA
R214	VRD-MN2BE222J		R 2.2k 1/8W Carbon	AA
R215	VRD-MN2BE102J		R 1k 1/8W Carbon	AA
R216	See Controls			
R218	VRD-MN2BE273J		R 27k 1/8W Carbon	AA
R219	VRD-MN2BE154J		R 150k 1/8W Carbon	AA
R220	VRD-MN2BE184J		R 180k 1/8W Carbon	AA
R221	VRD-MN2BE223J		R 22k 1/8W Carbon	AA
R222	VRD-MN2BE472J		R 4.7k 1/8W Carbon	AA
R223	VRD-MN2BE472J		R 4.7k 1/8W Carbon	AA
R224	VRD-MN2BE472J		R 4.7k 1/8W Carbon	AA
R225	VRD-MN2BE472J		R 4.7k 1/8W Carbon	AA
R226	VRD-RA2EE120J		R 12 1/4W Carbon	AA
R227	VRD-RA2EE120J		R 12 1/4W Carbon	AA
R228	VRD-MN2BE103J		R 10k 1/8W Carbon	AA
R229	VRD-MN2BE103J		R 1 Ok 1/8W Carbon	AA
R230	VRD-MN2BE153J		R 15k 1/8W Carbon	AA
R232	VRD-RA2BE473J		R 47k 1/8W Carbon (CX-34G3)	AA
R233	VRD-RA2BE473J		R 47k 1/8W Carbon (CX-34G3)	AA
R234	VRD-RA2BE103J		R 1 Ok 1/8W Carbon	AA
R235	VRD-MN2BE472J		R 4.7k 1/8W Carbon	AA
R237	VRD-MN2BE472J		R 4.7k 1/8W Carbon	AA
R238	VRS-VV3DB153J		R 15k 2W Metal Oxide	AA
R242	VRD-MN2BE151J		R 150 1/8W Carbon	AA
R244	VRD-MN2BE273J		R 27k 1/8W Carbon	AA
R247	VRD-MN2BE222J		R 2.2k 1/8W Carbon	AA
R249	VRD-MN2BE102J		R 1k 1/8W Carbon	AA
R250	VRD-MN2BE393J		R 39k 1/8W Carbon	AA
R301	VRD-MN2BE102J		R 1k 1/8W Carbon	AA
R302	VRD-MN2BE332J		R 3.3k 1/8W Carbon	AA
R303	VRD-RA2BE392J		R 3.9k 1/8W Carbon	AA
R304	VRD-MN2BE392J		R 3.9k 1/8W Carbon	AA
R305	VRD-MN2BE473J		R 47k 1/8W Carbon	AA
R306	VRD-RA2BE100J		R 10 1/8W Carbon	AA
R308	VRD-MN2BE153J		R 15k 1/8W Carbon	AA
R309	VRD-MN2BE123J		R 12k 1/8W Carbon	AA
R310	VRD-MN2BE104J		R 100k 1/8W Carbon	AA
R311	VRD-MN2BE123J		R 12k 1/8W Carbon	AA
R312	VRD-MN2BE153J		R 15k 1/8W Carbon	AA
R313	VRD-RA2BE273J		R 27k 1/8W Carbon	AA
R314	VRD-MN2BE332J		R 3.3k 1/8W Carbon	AA
R315	VRD-MN2BE563J		R 56k 1/8W Carbon	AA
R316	VRD-MN2BE123J		R 12k 1/8W Carbon	AA
R317	VRD-MN2BE123J		R 12k 1/8W Carbon	AA
R318	VRD-RA2BE681J		R 680 1/8W Carbon	AA
R319	VRD-RA2BE393J		R 39k 1/8W Carbon	AA
R320	VRD-RA2BE223J		R 22k 1/8W Carbon	AA
R321	VRD-RA2BE473J		R 47k 1/8W Carbon	AA
R322	VRN-VV3DB2R2J		R 2.2 2W Metal Film	AB
R324	VRD-MN2BE102J		R 1k 1/8W Carbon	AA
R328	VRD-MN2BE472J		R 4.7k 1/8W Carbon	AA
R401	VRD-RA2EE750J		R 75 1/4W Carbon	AA
R402	VRD-MN2BE103J		R 1 Ok 1/8W Carbon	AA
R403	VRD-RA2EE750J		R 75 1/4W Carbon	AA
R406	VRD-RA2BE102J		R 1k 1/8W Carbon	AA
R408	VRD-RA2BE222J		R 2.2k 1/8W Carbon	AA
R409	VRD-MN2BE824J		R 820k 1/8W Carbon	AA
R415	VRD-RA2BE101J		R 100 1/8W Carbon	AB
R416	VRD-RM2HD470J		R 47 1/2W Carbon	AA
R417	VRD-RA2EE750J		R 75 1/4W Carbon	AA
R418	VRD-RA2BE223J		R 22k 1/8W Carbon	AA
R419	VRD-RA2BE223J		R 22k 1/8W Carbon	AA
R420	VRD-MN2BE103J		R 1 Ok 1/8W Carbon (CX-34G3)	AA
R420	VRD-RA2BE153J		R 15k 1/8W Carbon (CX-51G3)	AA
R421	VRD-RM2HD470J		R 47 1/2W Carbon	AA
R422	VRD-RA2BE222J		R 2.2k 1/8W Carbon	AA
R504	VRD-MN2BE221J		R 220 1/8W Carbon	AA
R506	VRD-RA2BE102J		R 1k 1/8W Carbon	AA
R510	VRD-RM2HD1R5J		R 1.5 1/2W Carbon (CX-51G3)	AA
R510	VRD-RM2HD2R2J		R 2.2 1/2W Carbon (CX-34G3)	AA
R511	VRD-RA2BE273J		R 27k 1/8W Carbon (CX-34G3)	AA
R511	VRD-RA2BE333J		R 33k 1/8W Carbon (CX-51G3)	AA
R513	VRD-RA2BE273J		R 27k 1/8W Carbon (CX-51G3)	AA
R513	VRD-RA2BE333J		R 33k 1/8W Carbon (CX-34G3)	AA
R514	VRD-RA2BE563J		R 56k 1/8W Carbon	AA
R515	VRD-RA2EE220J		R 22 1/4W Carbon	AA
R516	VRD-RM2HD331J		R 330 1/2W Carbon	AA
R517	VRD-RA2BE223J		R 22k 1/8W Carbon	AA
R518	VRD-RA2BE102J		R 1k 1/8W Carbon	AA
R519	VRD-RM2HD152J		R 1.5k 1/2W Carbon (CX-51G3)	AA
R601	VRD-MN2BE104J		R 100k 1/8W Carbon	AA
R602	VRD-RA2BE103J		R 10k 1/8W Carbon	AA
R604	VRD-RA2BE391J		R 390 1/8W Carbon	AA
R605	VRD-MN2BE102J		R 1k 1/8W Carbon	AA
R606	VRD-RA2BE681J		R 680 1/8W Carbon	AA
R607	VRD-MN2BE103J		R 10k 1/8W Carbon	AA
R608	VRD-RM2HD392J		R 3.9k 1/2W Carbon (CX-34G3)	AA
R608	VRD-RM2HD472J		R 4.7k 1/2W Carbon (CX-51G3)	AA
R609	VRS-SV3LB332J		R 3.3k 3W Metal Oxide (CX-51G3)	AB
R609	VRS-SV3LB472J		R 4.7k 3W Metal Oxide (CX-34G3)	AC
R610	VRD-MN2BE822J		R 8.2k 1/8W Carbon	AA
R611	VRW-KQ3HC4R7K		R 4.7 5W Cement (CX-34G3)	AE

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MAIN UNIT(Continued)

Ref. No.	Part No.	★	Description	Code
R611	VRW-KQ3NC4R7K		R 4.7 7W Cement (CX-51G3)	AE
⚠ R612	RR-XZ0073CEZZ		R 270 1/2W Fuse Resistor (CX-34G3)	AB
⚠ R612	VRG-PD2HD820J		R 82 1/2W Fuse Resistor (CX-51G3)	AC
R613	VRD-MN2BE103J		R 10k 1/8W Carbon	AA
R614	VRD-RM2HD180J		R 18 1/2W Carbon	AA
R617	VRS-VV3AB330J		R 33 1W Metal Oxide (CX-51G3)	AA
R618	VRD-RM2HD102J		R 1 k 1/2W Carbon	AA
R619	VRD-MN2BE393J		R 39k 1/8W Carbon	AA
⚠ R620	RR-XZ0035TAZZ		R 22 1/4W Fuse Resistor (CX-34G3)	AB
⚠ R620	RR-XZ0085CEZZ		R 3.9 1/4W Fuse Resistor (CX-51G3)	AC
R621	VRN-VV3AB1R0J		R 1 1W Metal Film (CX-34G3)	AA
R621	VRN-RV3ABR56J		R 0.56 1W Metal Film (CX-51G3)	AB
R622	VRD-RM2HD223J		R 22k 1/2W Carbon	AA
⚠ R623	VRD-RA2BE563G		R 56k 1/8W Carbon (CX-34G3)	AA
⚠ R623	VRD-RA2EE683G		R 68k 1/4W Carbon (CX-51G3)	AB
⚠ R624	VRD-RA2BE822J		R 8.2k 1/8W Carbon (CX-34G3)	AA
⚠ R624	VRD-RA2BE123G		R 12k 1/8W Carbon (CX-51G3)	AA
R625	VRD-RA2BE103J		R 10k 1/8W Carbon	AA
⚠ R630	VRD-MN2BE123J		R 12k 1/8W Carbon	AA
⚠ R631	VRD-MN2BE102J		R 1k 1/8W Carbon	AA
⚠ R633	VRD-RA2BE473G		R 47k 1/8W Carbon (CX-34G3)	AA
R633	VRD-RA2BE562J		R 5.6k 1/8W Carbon (CX-51G3)	AA
R634	VRD-RM2HD680J		R 68 1/2W Carbon (CX-34G3)	AA
R634	VRD-RM2HD101J		R 100 1/2W Carbon (CX-51G3)	AA
⚠ R635	VRD-MN2BE154J		R 150k 1/8W Carbon	AA
R640	VRD-RM2HD682J		R 6.8k 1/2W Carbon	AA
⚠ R642	VRD-MN2BE103J		R 10k 1/8W Carbon	AA
R648	VRD-RM2HD2R7J		R 2.7 1/2W Carbon	AA
R651	VRD-RM2HD101J		R 100 1/2W Carbon	AA
R653	VRD-MN2BE822J		R 8.2k 1/8W Carbon	AA
R654	VRD-RM2HD560J		R 56 1/2W Carbon	AA
R655	VRD-RM2HD180J		R 18 1/2W Carbon	AA
R656	VRD-RM2HD2R7J		R 2.7 1/2W Carbon	AA
R657	VRD-RA2BE103J		R 1 Ok 1/8W Carbon	AA
R658	VRD-RM2HD470J		R 47 1/2W Carbon	AA
R660	VRD-MN2BE681J		R 680 1/8W Carbon	AA
R661	VRD-RA2EE105J		R 1M 1/4W Carbon (CX-34G3)	AA
R661	VRD-RA2BE105J		R 1M 1/8W Carbon (CX-51G3)	AA
R702	VRW-KQ3NC3R9K		R 3.9 7W Cement	AE
R703	VRS-KT3LB562J		R 5.6k 3W Metal Oxide	AC
R704	VRS-SV3DB150J		R 15 2W Metal Oxide (CX-34G3)	AA
R704	VRN-RV3DB4R7J		R 4.7 2W Metal Film (CX-51G3)	AB
R705	VRN-VV3AB2R2J		R 2.2 1W Metal Film (CX-34G3)	AA
R705	VRN-VV3AB3R3J		R 3.3 1W Metal Film (CX-51G3)	AA
R706	VRD-RA2BE124J		R 120k 1/8W Carbon	AA
R707	VRD-RA2BE390J		R 39 1/8W Carbon (CX-34G3)	AA
R707	VRD-RA2BE270J		R 27 1/8W Carbon (CX-51G3)	AA
R709	VRS-KT3LB562J		R 5.6k 3W Metal Oxide	AC
R710	VRD-RA2BE392J		R 3.9k 1/8W Carbon	AA
R711	*See Controls*			
R712	VRD-RA2BE821J		R 820 1/8W Carbon	AA
R715	VRD-RA2BE103J		R 10k 1/8W Carbon (CX-34G3)	AA
R715	VRD-RA2BE153J		R 15k 1/8W Carbon (CX-51G3)	AA
R716	VRD-RA2BE180J		R 18 1/8W Carbon	AA
R717	VRD-RA2BE101J		R 100 1/8W Carbon	AB
R718	VRN-VV3ABR22J		R 0.22 1W Metal Film	AA
⚠ R719	VRC-UA2HG825K		R 8.2M 1/2W Solid	AA
⚠ R720	VRC-UA2HG825K		R 8.2M 1/2W Solid	AA
R721	VRD-RM2HD1R0J		R 1 1/2W Carbon	AA
R722	VRN-SV2HBR47J		R 0.47 1/2W Metal Film (CX-51G3)	AB
R723	VRS-VV3LB272J		R 2.7k 3W Metal Oxide	AB
R724	VRD-RA2BE102J		R 1k 1/8W Carbon	AA
R735	VRD-RM2HD184J		R 180k 1/2W Carbon	AA
R736	VRD-RM2HD184J		R 180k 1/2W Carbon	AA
R802	VRD-MN2BE561J		R 560 1/8W Carbon	AA
R803	VRD-MN2BE561J		R 560 1/8W Carbon	AA
R804	VRD-MN2BE561J		R 560 1/8W Carbon	AA
R805	VRD-MN2BE222J		R 2.2k 1/8W Carbon	AA
R809	VRD-RA2BE102J		R 1k 1/8W Carbon	AA
R810	VRD-RA2BE102J		R 1k 1/8W Carbon	AA
R811	VRD-RA2BE102J		R 1k 1/8W Carbon	AA
R812	VRD-MN2BE101J		R 100 1/8W Carbon	AA
R813	VRD-MN2BE101J		R 100 1/8W Carbon	AA
R814	VRD-RA2BE273J		R 27k 1/8W Carbon	AA
R815	VRD-RA2BE223J		R 22k 1/8W Carbon	AA
R816	VRD-MN2BE473J		R 47k 1/8W Carbon	AA
R817	VRD-MN2BE473J		R 47k 1/8W Carbon	AA
R819	VRD-RA2BE102J		R 1k 1/8W Carbon	AA
R820	VRD-RA2BE101J		R 100 1/8W Carbon	AB
R821	VRD-RA2BE101J		R 100 1/8W Carbon	AB
R822	VRD-RA2BE101J		R 100 1/8W Carbon	AB

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MAIN UNIT(Continued)

Ref. No.	Part No.	★	Description	Code
R823	VRD-RA2BE102J		R 1k 1/8W Carbon	AA
R824	VRD-RA2BE102J		R 1k 1/8W Carbon	AA
R825	VRD-RA2BE102J		R 1k 1/8W Carbon	AA
R826	VRD-RA2BE223J		R 22k 1/8W Carbon	AA
R1001	VRD-RA2BE472J		R 4.7k 1/8W Carbon	AA
R1002	VRD-RA2BE472J		R 4.7k 1/8W Carbon	AA
R1003	VRD-MN2BE472J		R 4.7k 1/8W Carbon	AA
R1004	VRD-MN2BE473J		R 47k 1/8W Carbon	AA
R1005	VRD-RA2BE562J		R 5.6k 1/8W Carbon	AA
R1006	VRD-RA2BE101J		R 100 1/8W Carbon	AB
R1009	VRD-MN2BE101J		R 100 1/8W Carbon	AA
R1010	VRD-RA2BE683J		R 68k 1/8W Carbon (CX-34G3)	AA
R1 010	VRD-MN2BE683J		R 68k 1/8W Carbon (CX-51G3)	AA
R1011	VRD-RA2BE683J		R 68k 1/8W Carbon	AA
R1012	VRD-RA2BE102J		R 1k 1 /8W Carbon	AA
R1014	VRD-RA2BE472J		R 4.7k 1/8W Carbon	AA
R1 015	VRD-MN2BE332J		R 3.3k 1/8W Carbon	AA
R1016	VRD-RA2BE101J		R 100 1/8W Carbon	AB
R1017	VRD-RA2BE683J		R 68k 1/8W Carbon	AA
R1018	VRD-RA2BE101J		R 100 1/8W Carbon	AB
R1019	VRD-MN2BE101J		R 100 1/8W Carbon	AA
R1021	VRD-MN2BE102J		R 1k 1/8W Carbon (CX-34G3)	AA
R1023	VRD-MN2BE102J		R 1k 1/8W Carbon	AA
R1024	VRD-MN2BE683J		R 68k 1/8W Carbon (CX-51G3)	AA
R1026	VRD-MN2BE102J		R 1k 1/8W Carbon	AA
R1027	VRD-MN2BE562J		R 5.6k 1/8W Carbon	AA
R1028	VRD-MN2BE332J		R 3.3k 1/8W Carbon	AA
R1030	VRD-RA2BE101J		R 100 1/8W Carbon	AB
R1031	VRD-RA2BE333J		R 33k 1/8W Carbon	AA
R1032	VRD-RA2BE683J		R 68k 1/8W Carbon	AA
R1034	VRD-MN2BE562J		R 5.6k 1/8W Carbon	AA
R1035	VRD-MN2BE562J		R 5.6k 1/8W Carbon	AA
R1036	VRD-MN2BE182J		R 1.8k 1/8W Carbon	AA
R1037	VRD-MN2BE103J		R 1 Ok 1/8W Carbon	AA
R1038	VRD-MN2BE333J		R 33k 1/8W Carbon	AA
R1039	VRD-MN2BE271J		R 270 1/8W Carbon	AA
R1040	VRD-MN2BE271J		R 270 1/8W Carbon	AA
R1041	VRD-MN2BE103J		R 10k 1/8W Carbon	AA
R1042	VRD-RA2BE562J		R 5.6k 1/8W Carbon	AA
R1043	VRD-MN2BE103J		R 1 Ok 1/8W Carbon	AA
R1044	VRD-RA2BE562J		R 5.6k 1/8W Carbon	AA
R1045	VRD-RM2HD270J		R 27 1 /2W Carbon (CX-34G3)	AA
R1045	VRD-RM2HD180J		R 18 1/2W Carbon (CX-51G3)	AA
R1046	VRD-RM2HD270J		R 27 1 /2W Carbon (CX-34G3)	AA
R1046	VRD-RM2HD180J		R 18 1/2W Carbon (CX-51G3)	AA
R1047	VRD-MN2BE472J		R 4.7k 1/8W Carbon	AA
R1049	VRD-MN2BE473J		R 47k 1/8W Carbon	AA
R1050	VRD-RA2BE473J		R 47k 1/8W Carbon	AA
R1051	VRD-MN2BE393J		R 39k 1/8W Carbon	AA
R1052	VRD-MN2BE272J		R 2.7k 1/8W Carbon	AA
R1055	VRD-RM2HD101 J		R 100 1/2W Carbon	AA
R1057	VRD-MN2BE273J		R 27k 1/8W Carbon	AA
R1058	VRD-MN2BE822J		R 8.2k 1/8W Carbon	AA
R1059	VRD-MN2BE472J		R 4.7k 1/8W Carbon	AA
R1060	VRD-MN2BE222J		R 2.2k 1/8W Carbon	AA
R1061	VRD-MN2BE103J		R 1 Ok 1/8W Carbon	AA
R1062	VRD-RM2HD270J		R 27 1/2W Carbon (CX-34G3)	AA
R1062	VRD-RM2HD180J		R 18 1/2W Carbon (CX-51G3)	AA
R1063	VRD-MN2BE103J		R 10k 1/8W Carbon	AA
R1064	VRD-RA2BE102J		R 1k 1/8W Carbon	AA
R1065	VRD-MN2BE102J		R 1k 1/8W Carbon	AA
R1067	VRD-MN2BE562J		R 5.6k 1/8W Carbon	AA
R1069	VRD-MN2BE000J		R 0 1/8W Carbon (CX-51G3)	AA
R1070	VRD-MN2BE562J		R 5.6k 1/8W Carbon	AA
R1072	VRD-RA2BE153J		R 15k 1/8W Carbon	AA
R1075	VRD-MN2BE102J		R 1k 1/8W Carbon	AA
R1076	VRD-MN2BE102J		R 1k 1/8W Carbon	AA

SWITCHES

S701	QSW-P0588CEZZ	R	Main Power	AP
S1001	QSW-K0079GEZZ	R	Preset	AB
S1002	QSW-K0079GEZZ	R	Volume Down	AB
S1003	QSW-K0079GEZZ	R	Volume Up	AB
S1004	QSW-K0079GEZZ	R	Channel Down	AB
S1005	QSW-K0079GEZZ	R	Channel Up	AB
S1006	QSW-B0015CEZZ	R	Set-up	AC

MISCELLANEOUS PARTS

⚠ F301	QFS-J1521CEZZ	R	IC Protector	AF
⚠ F701	QFS-C3224CEZZ	R	T3.15A	AD
FB305	RBLN-0037CEZZ	R	Ferrite Bead	AB
FB602	RBLN-0037CEZZ	R	Ferrite Bead	AB
FB702	RBLN-0037CEZZ	R	Ferrite Bead	AB
FB706	RBLN-0037CEZZ	R	Ferrite Bead	AB
FB731	RBLN-0080CEZZ	R	Ferrite Bead	AD
FH701	QFSHD1017CEZZ	R	Fuse Holder	AC
FH702	QFSHD1 018CEZZ	R	Fuse Holder	AC
J401	QTANJ0429CEZZ	R	A/V Terminal	AH
P201	QPLGN0241CEZZ	R	Plug 2-pin TP210	AA
P301	QPLGN0241CEZZ	R	Plug 2-pin (S)	AA
P401	QPLGN0441CEZZ	R	Plug 4-pin (VA)	AB
P502	QPLGN0603CEZZ	R	Plug 6-pin (F)	AB
P602	QPLGN0441CEZZ	R	Plug 4-pin (H)	AB
P711	QPLGN0207CEZZ	R	Plug 2-pin (G)	AA
P712	QPLGN0269GEZZ	R	Plug 2-pin (A)	AB
P801	QPLGN0541CEZZ	R	Plug 5-pin (K)	AB
P1001	QPLGN0441CEZZ	R	Plug 4-pin (BC)	AB
RMC1001	RRMCU0222CEZZ	R	Infrared R/C Receiver	AL

Ref. No.	Part No.	★	Description	Code

PWB-A DUNTK9322WEW1/W3
MAIN UNIT(Continued)

RDA351	PRDAR0142PEFW	R	Heat Sink, for IC351	AD
RDA501	PRDAR0223PEFW	R	Heat Sink, for IC501	AF
RDA701	PRDAR0222PEFW	R	Heat Sink, for Q701	AH
SLD100 1	PSLDM0233PEFW	R	Shield, for IC1001	AC
SLD201	PSLDM0232PEFW	R	Shield, PIF Shield	AD
	LX-BZ3100CEFD	R	Screw, x3	AA
	LX-TZ3004CEFD	R	Screw, x2	AA
	PRDAR0224PEFW	R	Heat Sink for Q602	AF

Ref. No.	Part No.	★	Description	Code

PWB-B DUNTK9323WEV2/W3
CRT SOCKET UNIT

TRANSISTORS

Q851	VS2SC2229O/1E	R	R-Out (CX-34G3)	AD
Q851	VS2SC3789//1E	R	R-Out (CX-51G3)	AE
Q852	VS2SC2229O/1 E	R	G-Out (CX-34G3)	AD
Q852	VS2SC3789//1 E	R	G-Out (CX-51G3)	AE
Q853	VS2SC2229O/1 E	R	B-Out (CX-34G3)	AD
Q853	VS2SC3789//1 E	R	B-Out (CX-51G3)	AE
Q854	VS2SA1015Y/1 E	R	Bias	AC

DIODES

D851	RH-DX0475CEZZ	R	Diode	AB
D852	RH-DX0475CEZZ	R	Diode	AB
D853	RH-DX0475CEZZ	R	Diode	AB

COIL

L851	VP-CF681K0000	R	Peaking 680µH	AB

CAPACITORS

C851	VCCSPA1HL271J	R	270p 50V Ceramic (CX-34G3)	AA
C851	VCCSPA1HL391J	R	390p 50V Ceramic (CX-51G3)	AA
C852	VCCSPA1HL271J	R	270p 50V Ceramic (CX-34G3)	AA
C852	VCCSPA1HL391J	R	390p 50V Ceramic (CX-51G3)	AA
C853	VCCSPA1HL271J	R	270p 50V Ceramic (CX-34G3)	AA
C853	VCCSPA1HL391J	R	390p 50V Ceramic (CX-51G3)	AA
C854	RC-KZ0016CEZZ	R	0.01 50V Ceramic (CX-34G3)	AC
C854	RC-KZ0150CEZZ	R	1000p 3kV Ceramic (CX-51G3)	AB
C861	VCEAGA1CW106M	R	10 16V Electrolytic	AA
C865	VCKYPA1 HB102K	R	1000p 50V Ceramic	AA
C866	VCEAGA2EW106M	R	10 250V Electrolytic	AC
C870	VCEAGA1CW106M	R	10 16V Electrolytic	AA

RESISTORS

R851	VRD-RA2BE821J	R	820 1/8W Carbon (CX-34G3)	AA
R851	VRD-MN2BE471J	R	470 1/8W Carbon (CX-51G3)	AA
R852	VRD-MN2BE561J	R	560 1/8W Carbon	AA
R856	VRD-RA2BE821J	R	820 1/8W Carbon (CX-34G3)	AA
R856	VRD-MN2BE471J	R	470 1/8W Carbon (CX-51G3)	AA
R858	VRD-MN2BE561J	R	560 1/8W Carbon	AA
R859	VRD-MN2BE152J	R	1.5k 1/8W Carbon	AA
R860	VRS-VV3DB123J	R	12k 2W Metal Oxide	AA
R862	VRD-RA2BE821J	R	820 1/8W Carbon (CX-34G3)	AA

Ref. No.	Part No.	★	Description	Code

PWB-B DUNTK9323WEV2/W3
CRT SOCKET UNIT(Continued)

R862	VRD-MN2BE471J		R 4 7 0 1/8W Carbon (CX-51G3)	AA
R864	VRD-MN2BE561J		R 5 6 0 1/8W Carbon	AA
R865	VRD-RA2BE471J		R 4 7 0 1/8W Carbon	AA
R866	VRS-VV3DB123J		R 12k 2W Metal Oxide	AA
R867	VRD-RM2HD272J		R 2.7k 1/2W Carbon	AA
R868	VRS-VV3DB123J		R 12k 2W Metal Oxide	AA
R870	VRD-MN2BE222J		R 2.2k 1/8W Carbon	AA
R871	VRD-MN2BE152J		R 1.5k 1/8W Carbon	AA
R875	VRD-MN2BE560J		R 5 6 1/8W Carbon	AA
R876	VRD-MN2BE560J		R 5 6 1/8W Carbon	AA
R877	VRD-MN2BE560J		R 5 6 1/8W Carbon	AA
R898	VRD-RM2HD272J		R 2.7k 1/2W Carbon	AA
R899	VRD-RM2HD272J		R 2.7k 1/2W Carbon	AA

MISCELLANEOUS PARTS

P851	QPLGN0441CEZZ		R Plug 4-pin (H)	AB
P852	QPLGN0541CEZZ		R Plug 5-pin (K)	AB
⚠ SC851	QSOCV0842CEZZ		R CRT Socket (CX-34G3)	AH
⚠ SC851	QSOCV0931CEZZ		R CRT Socket (CX-51 G3)	AK

Ref. No.	Part No.	★	Description	Code

PWB-C DUNTK9324WEV0/W3
AV-2 TERMINAL UNIT

MISCELLANEOUS PARTS

J402	QJAKE0145CEZZ		R Jack, Audio In	AF
J403	QJAKE0144CEZZ		R Jack, Video In	AF
P402	QPLGN0441CEZZ		R Plug 4-pin (VA)	AB

MISCELLANEOUS PARTS

Ref. No.	Part No.	★	Description	Code
SP1	VSP9050PB11WA	R	Speaker	AP
⚠ ACC701	QACCL3025CESA	R	AC Cord	AR
	LHLDK0005PE00	R	AC Cord Holder	AC
	QCNW-2128PEZZ	R	Connecting Wire (VA)	AK
	QCNW-2161PEZZ	R	Connecting Wire (K) (CX-34G3)	AG
	QCNW-2162PEZZ	R	Connecting Wire (H) (CX-34G3)	AG
	QCNW-2126PEZZ	R	Connecting Wire (H) (CX-51G3)	AG
	QCNW-2127PEZZ	R	Connecting Wire (K) (CX-51G3)	AG
	QCNW-2163PEZZ	R	Connecting Wire (S) (CX-51G3)	AE

SUPPLIED ACCESSORIES

ACCESSORIES

	QANTR0018PEZZ	R	Rod Antenna (CX-34G3)	AQ
	QPLGJ0113CEZZ	R	Antenna Plug Adaptor (CX-34G3)	AG
	RRMCG1342PESA	R	infrared R/C Unit	AU
	TiNS-6222PEZZ	R	Operation Manual	AG

ACCESSORIES (NOT REPLACEMENT ITEM)

	UBATU0002AJZZ	-	Dry Batteries	—
	TGAN-0068PEZZ	-	Guarantee Cord (CX-34G3)	—

PACKING PARTS
(NOT REPLACEMENT ITEM)

MODEL CX-34G3

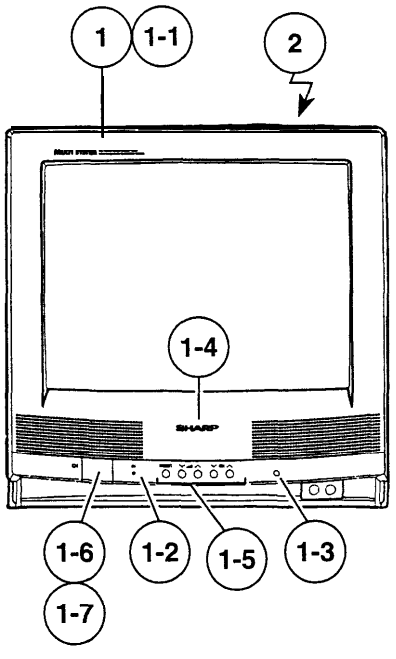
	SPAKC6280PEZZ	-	Packing Case	—
	SSAKP0056PEZZ	-	Polystyrene Cover	—
	SSAKA0031PEZZ	-	Polyethylene Bag	—
	SPAKX2654PEZZ	-	Buffer Material	—

MODEL CX-51G3

	SPAKC5117CEZZ	-	Packing Case	—
	SSAKP0704CEZZ	-	Polystyrene Cover	—
	SSAKA0037CEZZ	-	Polyethylene Bag	—
	SPAKX2802CEZZ	-	Buffer Material	—

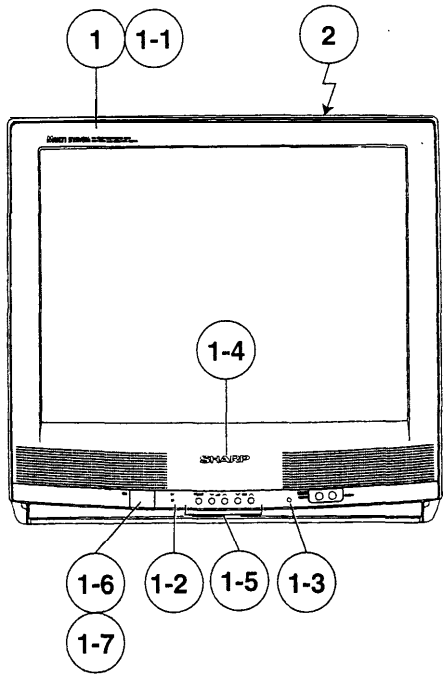
CABINET PARTS
(MODEL CX-34G3)

Ref. No.	Part No.	★	Description	Code
1	CCABA2434WEV0	R	Front Cabinet Ass'y	CA
1-1	*Not Available*	-	Front Cabinet	—
1-2	GCOVA0079PESA	R	LED Cover	AC
1-3	GCOVA0083PESA	R	R/C Cover	AD
1-4	HBDGB0018PESA	R	SHARP Badge	AE
1-5	JBTN-0273PESA	R	Control Button	AF
1-6	JBTN-0272PESA	R	Power Button	AD
1-7	MSPRC0068CEFW	R	Spring for Power Button	AA
2	GCABB2345PEKA	R	Rear Cabinet	AY



CABINET PARTS
(MODEL CX-51G3)

Ref. No.	Part No.	★	Description	Code
1	CCABA2433WEV0		Front Cabinet Ass'y	
1-1	*Not Available*	-	Front Cabinet	—
1-2	GCOVA0079PESA	R	LED Cover	AC
1-3	GCOVA0080PESA	R	R/C Cover	AD
1-4	HBDGB0019PESA	R	SHARP Badge	AD
1-5	JBTN-0273PESA	R	Control Button	AF
1-6	JBTN-0274PESA	R	Power Button	AG
1-7	MSPRC0068CEFW	R	Spring for Power Button	AA
2	GCABB2344PEKA		Rear Cabinet	



CX-34G3
CX-51G3

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